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Knitted Outerwear Times

the official publication of the
national knitted outerwear association
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sweaters • swim suits • infantswear • knit fabrics • polo shirts • gloves • hats • handbags

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Vol. 30

MONDAY, DECEMBER 4, 1961

CHARLOTTESVILLE, VA. No. 50

F.I.T. Open House Dec. 12 Launches Knitting Program

An open house will be held P.M. December 12 at the Fashion Institute of Technology, 27 West 27th Street, by the Knitting Technology Department of the school's Division of Industrial Management. The occasion is the inauguration of the four-year evening curricula leading to the Associate in Applied Business Science degree with specialization in knitting production management, administration and sales.

New courses will be offered in knitting technology. The National Knitted Outerwear Association sponsors the department.

The open house will include a panel discussion with college administrators and staff members and industry leaders on the new program. Circular, flat, full-fashioning and warp knitting machines will be demonstrated.

The knitting course includes a general one in the knitting industry which covers knitting methods, raw materials and fibers and dyeing and finishing.

Fabrics and yardgoods are covered in courses on analysis, yardgoods knitting machines and textile design.

The course in analysis will emphasize manufacturing methods.

The yardgoods course will consider the versatility, capacity and designing principles of yardgoods machines and fabric layout and design problems, supplemented with laboratory work.

The textile design course will discuss and analyze samples, imitation and scope of machines

and various methods such as pattern wheel and jacquard.

Machine courses include Principles of Weft Knitting Machines, Principles of Warp Knitting Machines, and Advanced Warp Knitting.

The weft knitting course presents the principles of stitch formation, scope and versatility of methods and demonstrations by the instructor on hand flat knitting machines.

The warp knitting course develops the fundamental principles of tricot and Raschel machines, fabric costs and dyeing.

Two methods courses are included—in automatic flat knitting and sweater strip knitting.

Luncheon To Honor Davis Yarn Executive

Morris J. Solomon, Davis Yarn Co., will be honored at a luncheon of the knit goods and yarn division of the Federation of Jewish Philanthropies of New York, at the Astor Hotel December 7.

He recently established a clinic for retarded children at the Jewish Hospital of Brooklyn.

Carl Leff, National Spinning Co., and honorary division chairman said, "This year, as Federation reaches for its greatest goal — \$22,500,000 — in order to increase its services to 800,000 New Yorkers of all faiths, we are indeed fortunate to have the devoted efforts of Morris Solomon."

Sim R. Gluckson, Sunrise Knitwear Co., is chairman of the drive. Serving as associate chairmen are: David Aronow, Lee Beachwear Co.; Elliot Dennis, Central Knitwear, Inc.; Sol Freeman, Brownie Knitting Mills; and Jack Lazar, Kimberly Knitwear, Inc.

U. S. Wool Advisory Committee Recommends Import Quota System

WASHINGTON, D. C.—A quota system setting ceilings on the import of wool products by countries and categories was recommended by the Government Wool Textile Advisory Committee when it met here last week. The need for urgent action on wool sweater limitations was stressed by Sidney S. Korzenik, executive director and counsel of the National Knitted Outerwear Association, who is a member of the official advisory group. He pointed out that if an arrangement were now in effect on wool parallel to the existing Geneva agreement on cotton products, there would be clear economic basis in sweaters for invoking the safeguard provision against undue concentration of imports and the avoidance of market disruption. Even in the absence of

The general views of the Committee were clearly foreshadowed in previous statements issued by some of the constituent trade associations whose representa-

(Continued on Page 27)

Cotton Committee Studies Procedure For Maintaining Watch On Imports

WASHINGTON, D. C.—The Government's Cotton Textile Advisory Committee devoted itself chiefly to a study of the new procedure for keeping watch on current imports of cotton textiles and clothing, at a meeting at the Department of Commerce, on Tuesday, November 28.

James F. Niels, president of the National Knitted Outerwear Association, attended the meeting as industry representative.

The group visited the Bureau of Census to inspect the methods and procedures devised for obtaining monthly figures more promptly than ever before on cotton imports in each of the categories set up under the provisional Geneva agreement which went into effect on October 1 of this year.

Speedy preparation of import statistics and vigilance have become particularly important for the implementation of the new textile pact on cottons, particu-

To make this provision effective, there must not be too much lag between the actual import entries and the compilation of

(Continued on Page 27)

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Knitted Outerwear Times

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FEATURES

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Synthetic Fiber Developments

Cyanamid Introduces New Type 61 Fiber

CHARLOTTE, N. C.—The American Cyanamid Company took a giant step toward establishing a broader position for its acrylic fiber in the knitwear field with the introduction of a new Type 61 fiber. The latest member of the Cyanamid acrylic fiber family made its official debut in a talk given here last Thursday evening by Dr. N. H. Harsh, technical director of Cyanamid's fiber division, before the Piedmont Chapter of the American Association for Textile Technology. Dr. Harsh shared the speaker's rostrum with W. H. Kieffer, director of marketing of Cyanamid's fiber division.

The new Type 61 fiber takes its place in the Cyanamid acrylic fiber line alongside of Types 58, WM, BB and BC and three un-designated modifications of Type 58.

With the Type 61 fiber, which will be available in both staple and tow form, it will now be possible for the Cyanamid acrylic fiber to be produced in high-bulk yarn form. Up to now, inability to convert the fiber in such yarn represented a major obstacle to its wider acceptance in the knitted outerwear field.

Availability of the new Type 61 fibers, Mr. Kieffer said, "will make Cyanamid acrylic fibers a major factor in the knit goods field." Present plans, he said, call for Type 61 tow to come on the market in January, 1962. He said the tow first will be made available on a limited scale under close supervision of the company's technical service staff. American Cyanamid markets its acrylic fibers under a selective distribution and quality control program, he explained. The fiber is sold to spinners as Cyanamid acrylic fiber and use of the Creslan trade mark is restricted to approved fabrics and garments made from the company's fiber.

"Cyanamid's customers, who process staple fiber into yarns and fabrics, are not permitted to use the Creslan trade mark until the finished fabric or knit product made from this fiber meets prescribed quality and performance standards," Mr. Kieffer stated. "Our company maintains quality control facilities and an extensive field technical service organization to assist its customers in producing

fabrics which meet these standards.

"We are going to take this same approach in marketing Type 61 tow. For this reason, Cyanamid's tow will reach the market at first on a very limited scale—as we work with customers to develop products worthy of the Creslan trade mark. All of our operations will be geared to the maintenance of that trade mark as a symbol of quality and performance in the textile goods field."

Initially, Type 61 tow will be produced in 3.0 and 5.0 deniers, each having a total tow denier of 480,000. A 3.0 denier medium shrinkage tow will also be produced. All tow will be in semi-dull luster. Type 61 tow in other deniers, including 15 denier, will be made available at a later date.

In staple form, Type 61 Cyanamid acrylic fiber will be turned out in 1.5, 3.0, 5.0 and 15 deniers in from 1½ to 4½ inch staple lengths. The staple will be available in two lustres—bright and semi-dull.

The new fiber has a round cross-section, a specific gravity of 1.18, an initial modulus of 39 grams per denier, a toughness index of .60 and water absorbency of 1.1 per cent from dry condition at 65 per cent relative humidity and 70° F.

In comparison to Type 58 Cyanamid acrylic staple, the new tow and staple product is whiter, can be dyed only with disperse and basic dyes and has no affinity for acid dyes.

This dye feature of the new fiber, Dr. Harsh explained, means that Type 61 can be cross-dyed with acid dyeable Type 58 in a one-bath process. Other cross-dyed effects can be achieved by combining Type 61 with wool, nylon and cellulosic fibers, he said. He stressed, however, that Type 61 fiber can also be union dyed with Type 58 as well as with other natural and synthetic fibers.

Like Orlon and Acrilan tow,

Creslan,

Cyanamid's new Type 61 fiber is processible on the Turbo Stapler. "The development of a tow readily processible on the Stapler," Dr. Harsh stated, "has been a major objective in creating Type 61."

He pointed out that the new fiber when processed on the Turbo Stapler produces fabrics "with a soft and pleasing hand, lightweight and excellent resiliency."

High-bulk yarns produced from Type 61 tow and containing a 60/40 ratio of high and low shrinkage fiber would have a shrinkage, according to Dr. Harsh, of between 22 and 24 per cent. Fully relaxed yarns processed on the Turbo Stapler, he added, would have a shrinkage of less than six per cent.

In 100 per cent relaxed yarn form, Dr. Harsh continued, the practical commercial spinning ranges for knitting yarns of Type 61 staple are up to 22/1 c.c. using 3.0 denier two-inch staple, and up to 45/1 c.c. using 1.5 denier 1½-inch staple.

Dr. Harsh told the AATT audience that the "dyeing factor is the focal point of Type 61's potential impact upon all segments of the textile trade."

"The use of disperse dyes with the new Type 61 staple and tow spotlights one of the important advantages of the new Cyanamid fiber. Type 61 is unique among fibers in its generic group for its receptivity to disperse dyes—under commercial conditions, without the use of pressure. A wide range of shades can be obtained—even navy blue, chocolate brown and jet black. Dyeings which are completely penetrated and which are rich in depth can be readily obtained at a maximum temperature of 205° F., in a time cycle not exceeding two hours."

In discussing the application of cationic dyes to Type 61 acrylic fiber, Dr. Harsh pointed out that its reaction to the class of dyestuff differs significantly from that of competitive acrylic fibers.

"Cationic dyes" he stated "will strike on the new Type 61 (Continued on Page 23)

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International Federation Of Knitting Specialists Parley

Trends In The Technology Of Sweater Manufacture

By CHARLES REICHMAN, Editor

THE KNITTED outerwear industry in the U.S. is again in a state of technological ferment. The first great technological upheaval struck the industry a little over a decade ago and was the result primarily of a revolution in fiber usage—the displacement of wool, the industry's basic raw material almost from its inception, by the non-cellulosic synthetic fibers. The present technical fermentation is not, however, the result of a sweeping change in the industry's long-standing pattern of fiber consumption but rather of the following wholly different forces:

- The mushrooming trend towards fashion diversity in knitted outerwear and the concomitant need for more flexible knitting machinery than the industry had grown accustomed to using in the past decade.

- The mounting tendency of wholesalers and retailers to order their seasonal requirements closer to the time of actual sale. This merchandising development has created an intense strain on manufacturers, forcing them to compress in a gradually shorter production period a steadily larger proportion of their output.

- Skyrocketing labor and manufacturing costs which have prompted a thorough reappraisal of many long-standing methods of performing sweater fabricating operations.

- Seriously developing scarcities of skilled labor as a result of the increasing number of retirements of older trained workers and the reluctance of young people to accept employment in knitting mills. This has stimulated greater interest on the part of mill management in more simplified, semi-automated production techniques.

Of the four factors, the first at the moment is the most significant and is having the greatest effect upon the industry's mode of manufacture. This does not mean, of course, that the importance of the other factors can be belittled. Actually, in the long run continually rising wage and manufacturing costs coupled with the growing difficulty in recruiting skilled and semi-skilled personnel, and aggravated by shorter production cycles will, indeed, have a far greater impact upon the industry's technology.

Before discussing the specific areas of sweater manufacture in which the prevailing technology is undergoing change, it might be appropriate first to cite a few vital statistics about the sweater industry on the other side of the Atlantic and give a fleeting glimpse of how sweater knitting mills in the States are organized along production lines.

Size of the Industry—The Stateside sweater industry consists of over 1,100 mills concentrated for the most part in the Middle Atlantic States and extending into the South, the Midwest and California on the West Coast. Sweater mills are for the most part small enterprises. Roughly 45 per cent of them employ fewer than 20 workers; relatively few mills in the industry have as many as 150 production workers. The industry's total productive labor force numbers somewhat over 50,000 workers and its annual wage bill for all employees runs over \$200 million.

The value of shipments of all knitted outerwear, excluding knitted yardgoods, has broken through the billion-dollar mark. Unit sweater output in 1960 stood at over 14 million dozen, down three per cent from peak output in 1959. From 1951 to 1959, total production of all sweaters—men's, women's, children's and infants'—rose steadily, most sharply in 1955 and 1956, somewhat less steeply in the more recent years.

Organization of the Industry—Manufacturers of sweaters and other similar knitted apparel are organized on horizontal and semi-integrated lines. Relatively few knitting mills spin their own yarns and only a small percentage are set up to perform the wet and dry finishing operations ancillary to the knitting of the fabric. Thus, for the most part, sweater manufacturers have their output dyed and finished in the plants of commission dyers and finishers. Depending

upon the end-use, the fabric may be knitted from yarn in the natural or dyed state. Where undyed yarn is used in knitting, dyeing may be in either strip or garment form.

The U.S. sweater industry is a highly specialized one. There are only a few mills which make the whole range of knitted outerwear. Outerwear knitting mills on the whole are organized to produce one particular type of article, and it is on the basis of this product specialization that intra-industry lines are drawn.

The product specialization of knitted outerwear mills basically takes two forms:

- By item, such as sweaters, headwear, knitted sportswear or swimwear.
- By age and sex categories, such as ladies' or men's sweaters or infants' and children's wear.

Fibers and Yarns—Wool, which at one time accounted for 85 per cent of the sweater industry's consumption of all fibers, has not been the major knitted outerwear raw material for almost a decade and a half. Its dominant position was relinquished to Orlon, which at last estimates represented approximately 45 per cent of the consumption of all fibers by sweater mills. While there has been some increase in wool use in all segments of the sweater industry, the rate at which wool consumption has been gaining has not been significant. The bulk of the wool currently being used by the industry finds its way into men's sweaters, the one sweater category in which this natural fiber has been able to withstand inroads by Orlon and other non-cellulosic synthetic fibers.

Apart from Orlon, the only other principal man-made fiber used in sweaters is nylon in the form of textured continuous filament yarn produced via the Ban-Lon crimping process. Nylon yarns processed on such other texturizing systems as Agilon, Saaba and Helanca have been used thus far only to a minor extent in sweaters.

The quantity of other acrylic fibers such as Acrilan, Creslan and Zefran used in sweaters is quite small, despite the fact that

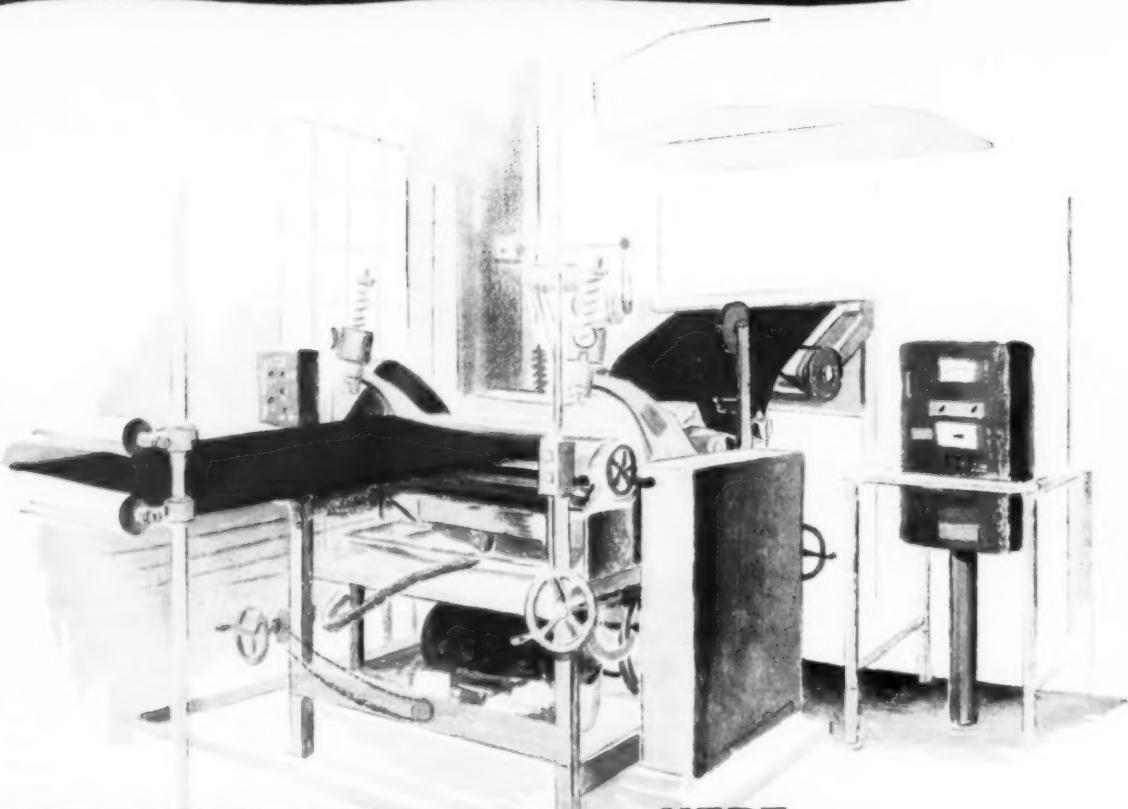
Text of talk delivered at the annual conference of the International Federation of Knitting Specialists held Oct. 9-13 in Manchester, England.

pressure for utilization of these fibers, in the form of attractive advertising and promotion bait, is being stepped up. The modacrylic fibers, notably Dynel and Verel, also have failed thus far to win even a modicum of acceptance in the U.S. sweater industry.

In Orlon, the industry has consistently favored yarns of the high-bulk type. Until the appearance on the market of Orlon Sayelle, DuPont's bi-component or reversible crimp acrylic fiber, all of the Orlon yarn handled was of the Type 42 variety. Now, however, with Orlon available in a veritable family of fiber types, knitters no longer restrict themselves to Type 42, though this fiber still accounts for the bulk of the Orlon knitted up into sweaters. In Orlon Sayelle, knitters now have Type 21 and Type 24 available for use. Somewhat more Type 21 fiber is consumed than Type 24 Orlon. This is explained largely by the fact that Type 21 came on the market first and was designed primarily for bulky-rib sweaters, a knit construction currently in vogue. Type 24 Orlon Sayelle is a relative newcomer to the American knitwear scene. It differs from its sister product in that it is designed primarily for fine gauge sweaters. Somewhat excessive pilling, resulting from improper handling of the fiber at the manufacturer's level, has delayed acceptance of this new type of Orlon Sayelle. However, with increased education as to the proper techniques of knitting Type 24 Orlon Sayelle, this difficulty will be overcome.

The high-bulk Orlon yarns that go into sweaters are processed on either the Turbo Stapler from producer's tow or from high and low shrinkage staple. Acceptance of Orlon Sayelle may serve in time to undercut the Turbo operation. Orlon Sayelle yarns need not be processed through the Turbo

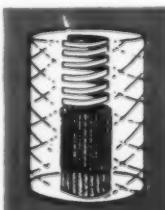
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Stapler; they are turned out on the more direct Pacific Converter system, by-passing the stretching and relaxing operations basic to high-bulk yarn production.

Other new Orlon fiber types such as Type 44 acid dyeable staple, Type 28 mohair-like fiber, offer still greater opportunities to sweater knitters for more diversified styling with Orlon. Interest in these newer DuPont acrylic fibers, however, is at the moment limited.

In addition to using a wider range of different types of Orlon, sweater knitters in the U.S. are also now knitting a variety of Orlon fiber deniers. For many years high-bulk Orlon sweater yarns were processed exclusively from three-denier fiber. Today, as the result of the popularity of bulky rib knits and the need for greater style diversity, sweater knitters have supplemented their use of three-denier Orlon with increased quantities of 6 and 10 denier Orlon.

The current trade interest in blended yarns provides a sharp contrast to the prevailing trade practice only a few years ago. Until relatively recently most sweater knitters avoided use of blends. Today, trade objections to blends have been overcome; most knitters now actually welcome new blend ideas. It is for this reason that spinners have substantially stepped up their lines of blended yarns and experimentation with new and unique fiber blends is moving ahead at a brisk pace.

In spun yarns of natural and synthetic fiber content, sweater knitters in the U.S. utilize both worsted and woolen spun yarns. The amount of woolen system yarn used has been progressively increasing over the years, due in a large part to the demand for the soft hairy types of yarns that are turned out on this system of yarn manufacture. In woolen system yarns, considerably more wool is utilized than spun synthetic fibers. The wool is generally of two types—virgin lamb's wool and specialty hair fibers. The spun synthetic fibers consist in the main of Orlon garnets. Although some virgin Orlon fiber is used, the percentage is infinitesimally small.

In worsted yarns the preference tends to run to those produced on short cycle American

system equipment as distinguished from the older Bradford and French spinning systems. A certain percentage of traditionally Bradford and French spun yarns are still being manufactured, but the quantity is gradually diminishing as more and more spinning mills catering to the outerwear trade modernize their plants with the new short-cut American system equipment.

Yarn sizes in worsted-spun yarns generally run from 2/20 to 2/36. In interlock knitting, single ply yarns, of course, are employed. Some attempt was made several years ago to use fine count two-ply yarns in interlock sweaters to overcome the high pilling which results from the use of single ply acrylic fiber yarns. However, two factors militated against these yarns:

- Inability of many spinners to spin soft twist knitting yarns into the extremely fine counts required.
- The high cost of such yarns in comparison to the single ply yarns.

In woolen system yarns the predominant size is three-run single ply for both fine gauge jersey and bulky rib knitting. When using these yarns for the latter type of garment, knitters feed multiple ends of these single yarns to the needles. The basic fiber compositions of woolen system yarns, aside from the luxury specialty hair fibers, such as cashmere, are: 100 per cent Orlon garnets; blends of 75 per cent lamb's wool and 25 per cent Orlon; and blends of lamb's wool with angora or coney for the well-known fur blend yarns. The latter yarns may also include a small percentage of spun nylon to add strength to the composition.

Knitting yarns are received by mills put up in cone form ready for creeling on circular sweater-strip or full-fashioning machines. A few quality mills make it a practice to backwind all yarns to obtain a yarn package sufficiently soft for knitting and free of neps, plucks, stitches, thick and thin places, oversized knots and similar winding or yarn imperfections.

Increasingly, mills are making it a practice to check their yarns in advance of knitting as a quality control measure. In addition to checking the yarns for moisture content, which is

primarily a billing check, mills test the yarns for excessive oil content, the correct yarn size, number of turns per inch and yarn appearance.

Knitting Set-Up—Mills specializing in the manufacture of sweaters are of two types: (1) cut-and-sew mills and (2) full-fashioned mills. Full-fashioned sweater manufacture is largely a specialized operation. Although there are a number of predominantly cut-and-sew mills which are equipped with Cotton's Patent spring needle equipment, for the most part full-fashioned mills do not possess circular sweater making machinery. It is possible, however, that this situation may change shortly as interest in full-fashioned knitting continues to wane. For the present, however, it can be stated that relatively few sweater mills in the U.S. are set up for both full-fashioned and circular-knit cut-and-sew work.

Mills producing sweaters on a cut-and-sew basis are equipped with circular garment-length machinery and a complement of V-bed flat machines for the manufacture of collars. In some cases the V-bed flat machines are also used for garment production, but this is not the general practice. Where V-bed flat machines are employed in the manufacture of sweaters, as distinguished from collars and other forms of trim, the machines are usually in the coarse cut range capable of turning out the presently fashionable bulky rib sweaters.

In their use of circular sweater-strip machinery, mills in the U.S. favor equipment of wide diameter. Most of the machines in place are 30-inch diameter units, with some interlock machines going up as high as 33-inch diameter. Some mills, particularly those producing men's and boys' sweaters, and to a lesser extent infants' and children's knitwear, utilize smaller diameter circular sweater-strip machinery in the so-called body size ranges. This practice is restricted mostly to those plants within the men's wear or children's wear fields that turn out a product somewhat higher in quality than the general run of goods produced in these specialized mills.

The wider diameter machines

are favored because, obviously, it is possible to turn out with such equipment a wider sweater-strip than with the narrower diameter machines. Wide sweater-strips are desired as a means of increasing equipment output. With a sweater-strip off a 30-inch diameter machine, depending upon the particular size garment to be produced, it is possible for a mill to obtain more than one sweater body or as many as four sleeve sections from one garment-length.

The sequence of operations in circular sweater-strip mills varies, of course, from mill to mill, depending upon the size of the mill, the nature of its equipment and the limitations of the physical plant. Generally, however, it can be said that the typical production flow may be somewhat along these lines:

1. Winding or backwinding
2. Knitting
3. Mill washing
4. Dyeing
5. Cloth separation
6. Steaming
7. Laying-up and cutting
8. Sewing
9. Trimming
10. Inspecting and mending
11. Packaging

In a full-fashioned plant, the production flow is, of course, somewhat different. Here, too, the method of operation differs among mills, depending upon virtually the same considerations as those affecting production flow in a cut-and-sew plant. The sequence predominantly is along the following lines:

1. Knitting of rib trims
2. Topping-on
3. Knitting of full-fashioned blanks including running-on
4. Looping
5. Cup seaming
6. Dyeing
7. Grosgrain and button sewing
8. Cloth trimming
9. Inspecting and mending
10. Packaging

Actually, in both a cut-and-sew and full-fashioned sweater mill, the production flow is governed by whether the mill does the knitting from yarn in the grey or from the dyed yarn. If dyed yarn is used, then, of course, the operation of dyeing tubular sweater-strips or completely assembled full-fashioned

(Continued on Page 9)



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UNIVERSAL FABRIC MACHINE

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- DIAMETER: 9" through 36"
- FEEDS: 8 through 36
- CUTS: 4 through 10

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garments is not a normal part of the sequence.

The work flow may vary, too, depending on the type of surface texture desired. If the mill produces brushed or napped and sheared sweaters, then, of course, additional operations would naturally be added to the production sequence. Brushed goods are usually knitted from dyed yarns, and the operation is performed immediately following knitting and before cloth separation.

In the manufacture of full-fashioned garments, mills are set up in accordance with one of three different production flows: (1) The continuous method whereby fronts, backs and sleeves are all turned out in sequence on the same machine; (2) the simultaneous method under which each of the three basic parts of the sweater—front, back and sleeves—are turned out separately on three different machines; and (3) the combination method whereby fronts and backs are alternately produced on the same machine and sleeves on a special Cotton's Patent sleeve unit. The latter is the most widely practiced procedure because it has been found to be the simplest and the speediest.

Cotton's Patent units employed in the manufacture of full-fashioned sweaters are mostly converted hosiery frames, although a few mills have within recent years installed brand new British equipment. The machines are mainly 21 gauge and are equipped with attachments for lace design, intarsia and striping. A few mills may have one or two units somewhat finer in gauge but there are a relatively small number of plants that have machines much beyond 27 gauge. The number of mills that have machines coarser than 21 gauge are also few in number. These are largely mills specializing in men's sweaters. The predominant gauge in the coarse range is 18.

Collars, waistband ribbing and rib trims for sleeves are, of course, knitted on V-bed flat machines. V-bed units set aside for producing collars usually are of broad stitch scope to enable the introduction of novelty, at least in this portion of the garment.

In the knitting of collars, dif-

ferent colored unraveling thread is sometimes employed to identify small, medium and large size collars. The same technique may also be utilized in the knitting of rib trims and rib waistbands. Sweater bodies are usually identified by size through the addition of extra fashioning marks below those normally used in widening and narrowing. Segregation of yarns of different fibers is achieved by means of tinting yarn cones with a fugitive dye.

Knitting Equipment — Ever since the ascent of synthetic fibers onto the U.S. textile scene, American manufacturers of sweaters had relied in knitting equipment predominantly on single or limited purpose highly productive circular machines. The specific type of machine most widely used was the interlock sweater-strip unit. Not only did the interlock machine best fulfill the industry's requirements for a simple machine capable of operating at a relatively high rate of speed, but it had this added advantage: Of all the basic types of circular machines, the interlock unit produced a structure which showed up the new synthetics in the best light esthetically, if not in end-use performance.

When spun nylon first came on the trade horizon shortly after the end of World War II, it was the interlock machine that helped promote initial acceptance of this fiber. Without the interlock machine, it might have been virtually impossible for Orlon later to unseat spun nylon and consolidate its position as the industry's principal fiber. Establishment of Ban-Lon textured filament nylon, as the second most important raw material for sweaters, also might not have been possible were it not for the interlock machine.

As long as the classic sweater remained the predominant vogue sweater manufacturers generally saw no need to invest in volume in any other type of equipment than the plain interlock machine. It was only natural, therefore, that for almost a decade machinery builders should concentrate most of their design and engineering efforts on refining this machine type, turning out models in wider diameters and finer gauges and with pro-

gressively larger numbers of feeds.

When the style pendulum began its cyclical swing away from the classic to the novelty type of sweater—specifically to bulky knits, brushed goods, heathers, jacquard patterns—knitters suddenly discovered the limited potentialities of the interlock machine. A ground-swell demand thus arose for machinery of greater flexibility. Knitters, of course, still desired machines capable of operating at high rates of speed, but they recognized that flexibility in stitch and patterning is not synonymous with high productivity. Although the interlock machine is still extensively employed in the industry, especially to turn out low and moderate priced sweaters and sweater-shirts of Ban-Lon processed textured nylon yarns, knitters in their recent equipment purchases have been largely favoring units that are capable of turning out a broad variety of sweater structures and patterns rather than one particular stitch or type of garment.

Circular sweater-strip machines in place in outerwear mills today comprise several different types. The most common, of course, is still the high-speed single-purpose interlock machine—specifically the Philip, Wildman-Jacquard AI and Scott & Williams MFRC models. Next in order of number are the multi-purpose interlock machines such as Wildman-Jacquard's TJI and Ordnance Gauge's OTA and OGA. As a result of the popularity of bulky rib knits, the circular links and links sweater-strip machine has come back into its own. Only one type of such machine is manufactured in the States—the Wildman-Jacquard Model LH. Today this unit vies with such more recently developed machines as the Supreme BRW and with the older Leighton brass ring ribbers and the latest model Leightons as the chief productive tools for making bulky rib knit sweaters.

Relatively few sweater mills utilize circular yardgoods machines for producing sweaters, though the practice may in time gain as sweater mills face increased competition in this garment area from cutters who purchase tubular fabric from specialty yardgoods knitters for

the manufacture of double knit dresses and sweater-blouses.

Cloth Separation — The separation of circular-knit sweater-strips in most mills is still performed manually; that is, a worker with one or more assistants snips the separating thread between sweater bodies and removes the draw thread course. In an attempt to achieve some modicum of automation in this operation, an increasing number of mills in the industry have installed machines which mechanically separate sweater-strips. These machines are used by a staff of workers operating in teams of three working side by side with the operator of the cloth separating machine in the center. The first worker snips the thread and prepares the strips for separation, passing it on to the operator who controls the machine. The third worker in the line takes the separated parts as they come off the machine and lays them up in bundles for movement to the pressing room.

At the present time there are three models of these mechanical thread separating machines in place in mills. All basically operate on the same principle; namely, the separating thread is attached to a rotating member, in the shape of a cone, reel or spool, and is pulled from between the sweater-strips with a pressure that may range as high as 40 pounds.

The recent development of a meltable fiber and a technique for removing it speedily and economically may eventually spell the doom of the mechanical cloth separator. The meltable fiber which disintegrates at 250° F. is removed by placing the goods in a dryer. Separation occurs in two to three minutes.

Cloth Cutting — Cutting of sweater bodies is generally done with round or straight cutting knives. In most mills the former is preferred, while a straight knife is used in cutting sharp curves and angles. Within recent years many mills have installed hydraulic die cutters as a substitute for conventional knife cutting techniques. They have favored this method of cloth cutting not only because it is faster and more efficient but also be-

(Continued on Page 11)



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*DuPont's Acrylic Fiber

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cause highly skilled labor is not required and finally because use of die cutters permits the introduction of some element of automation in the cutting operation. In some of the larger plants die cutters are set up at the end of a production line in which as many as six workers lay up and spread sweater bodies on clicking boards, feeding these to the hydraulic press operator periodically. In one plant an endless movable belt has been set up adjacent to a hydraulic press. On both sides of the movable belt workers lay up sweater-strips on clicking boards and then place these on the rotating belt for movement down the line to the hydraulic die press.

Production rates with die cutters naturally vary with different mills. A plant which has two workers to a hydraulic die cutter—the operator and an assistant to lay-up the cloth on clicking boards—obviously would have a higher output rate than a mill which assigns only one worker to the operation. Large mills reportedly have turned out over 400 dozen garments a day on the clickers. Output, of course, would be lower in smaller mills though the basic rate need not be different.

Sewing and Looping—The sewing department is the major production bottleneck in most sweater plants. This is largely the result of failure of mill management to devote the same degree of attention to modernizing equipment and plant layout in sewing rooms as they have done in their knitting departments.

Sewing rooms in sweater knitting plants may be set up on one of the following basic fabricating systems:

1. Unit garment assembly
2. Section work
3. Progressive bundle system

Of the three, unit garment assembly is the least popular, section work the most widely practiced and the progressive bundle system the method which most mills are now adopting in their efforts to speed production in sewing rooms. Of a group of ten large plants in the Atlantic States which recently modernized their operations, all introduced the progressive bundle system, which is actually a streamlined variant of the section work system.

In most plants, sewing room

operatives work side by side at their sewing machines which are mounted on a line shaft basis. The placement of the workers at each table may be face to face, back to front or back to back. Bins for the storage of goods between operations are invariably placed along the wall.

With the increased attention which mills are now giving to their sewing room problems, reorganization plans have stressed the setting up of operatives at individual work stations in classroom fashion with ample room around each work station for the receipt and dispatch of bundles, for work trucks and for the normal movements required of the operator.

In virtually all mills the work from one sewing operation to the next moves by means of fiber board or canvas trucks; in other words, as work is completed the bundle is thrown into a truck which is brought to the next work station by a floor boy. The flow of work in this set-up is on a straight line basis, moving from the initial operation to the succeeding one in a straight line. Actually, for reasons of space, the sewing tables may be set up in a series of rows and the goods may travel down one row, up another, and down the next, until the garment has been fully assembled and is ready for channelling to the examining, pressing, folding and packaging departments.

In many plants the sewing operations for pullovers and cardigans are now being separated to expedite handling and because of the extra operations involved in cardigan sewing as compared to sewing assembly of a pullover sweater.

The principal sewing machine used in the assembly of circular-knit sweaters is the overedging machine. Manufacturers have a wide selection of these units, and among the more popular are the Merrow, Singer and Union Special overedging machines. These units trim and overedge in one operation.

In full-fashioned plants the predominant machine used for sewing side seams and closing sleeves is the two-thread cup seaming machine.

For the sewing of grosgrain buttonhole tapes on full-fashioned and cut-and-sew sweaters,

many mills have found the Tape-Master unit faster and more economical than a conventional sewing machine. The machine consists of a two-spool tape creel resting on its own stand, a conveyor arm for feeding the sweater simultaneously with the tape and a sewing machine equipped with clamp mechanism and cutting knife. In a single operation the machine cuts the sweater, previously knitted in the form of a pullover with a missing needle line down the center, and automatically sews the buttonhole and button tapes in a single operation.

Other sewing machinery employed in both circular knit and full-fashioned sweater mills include units for blind-stitching, bartacking, label sewing, button-hole making and buttonhole sewing. For the latter, a Gloomarker is used for marking the position of buttonholes and buttons. Wide use is made also of shank button feeding devices.

Severe shortages of trained loopers have prompted many mills to avoid this operation. The one area in which looping is still widely practiced is in women's full-fashioned sweaters and men's Ban-Lon sweater-shirts. Here looping is the means by which shoulders are joined, sleeves set in and collars attached and closed. The attaching and closing of collars is probably the sole looping operation performed in mills specializing in sweaters produced on a circular knit strip basis. Favoured machines for looping are the Sotco single and two-thread chain stitch machines.

Dyeing and Finishing—Except for a few large circular and full-fashioned mills, most sweater plants in the States are not set up to dye their own yarns and fabric. Dyeing of sweater yarns and sweaters in strip and assembled form is done in the plants of commission dyers of which there are roughly 25 to service the industry's mills. Appearance of spun nylon back in the early fifties sparked a marked change in the industry's predominant method of dyeing its fibers and yarns. Up to that time wool, then the industry's principal fiber, was dyed largely in skein form on Klauder Weldon machines.

The fact that with spun nylon and later Orlon and other non-

cellulosic synthetics, knitters could knit their sweaters from yarn in the natural form and dye the sweater-strips after they came off the machine, opened up an entirely new operational vista for them. The new technique was particularly welcomed because it made possible the elimination of huge investments in colored yarns. With spun nylon, mills could produce their sweater-strips in advance of the season in the natural state and then send out the strips to be dyed by commission dyers in the required colors as indicated by sales results. When Orlon succeeded spun nylon and eventually became the kingpin fiber of the industry, the shift to piece or strip dyeing was accelerated.

The appearance of the bulky rib sweater prompted the first turn-away from sweater-strip dyeing. It was found, especially with Orlon, that superior bulk and coverage could be achieved via the skein dyeing route. But skein dyeing has some distinct limits for sweater mills. It is for the most part a limited quantity operation. As a result, mills have been turning increasingly to the package dyeing of Orlon yarns, a trend which is also affecting the prevailing methods of dyeing wool yarn.

Package dyeing of Orlon is done on much the same types of package dyeing equipment that are used for the dyeing of carded and combed cotton knitting yarns. Yarns are put up on $\frac{5}{8}$ inch and $1\frac{1}{8}$ inch perforated dye tubes or on the distinctive Franklin Process dye spring. Virtually no sweater mills have their own package dyeing installations; most package dyeing is done in the plants of commission dyers or in the dye plant affiliates of the spinning mills from which the package-dyed yarn is purchased.

Skein dyeing of Orlon, wool and other yarns used in the industry is no longer being done on the Klauder-Weldon winch type machine. The preference today is for hanging-type skein dyeing equipment in which the yarn is completely enclosed and remains stationary in a circulating dye bath. Among the more popular skein dyeing machines used in the plants of commission dyers and in the few wholly integrated sweater mills

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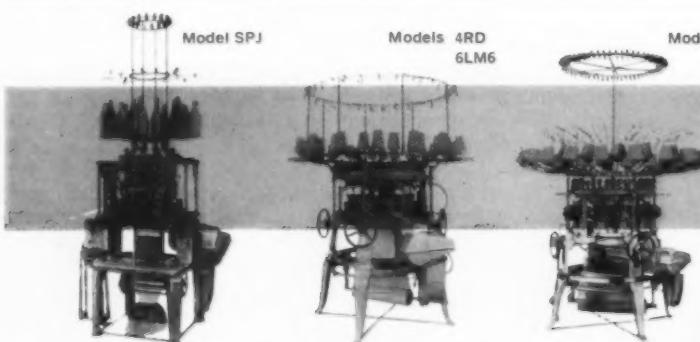
Constructions of the Hour on Timetable Schedules

Bentley-Wildt Mellor Bromley Line

CONSTRUCTION SCHEDULE	FEED	DIA.	N.P.I.	MODEL
Double Knit Jersey Fab. Lengths	44	30"	16 & 18	† • 6LM6*
Single Piqué Fab. Lengths	44	30"	16 & 18	† • 6LM6*
Single Piqué Fab. Lengths	32	30"	16 & 18	† • 4RD*
Double Piqué Fab. Lengths	44	30"	16 & 18	† • 6LM6*
Double Piqué Fab. Lengths	24	30"	14 to 18	† • 5RGS2*
Double Piqué Fab. Lengths	32	30"	16 & 18	† • 4RD*
Eight Lock Fab. Lengths	44	30"	16 to 18	† • 6LM6*
Eight Lock Fab. Lengths	24	30"	14 to 18	† • 5RGS2*
Eight Lock Fab. Lengths	32	30"	16 & 18	† • 4RD*
Horizontal Stripes Fab. Lengths	44	30"	16 & 18	† • 6LM6*
Horizontal Stripes Fab. Lengths	24	30"	14 to 18	† • 5RGS2*
Horizontal Stripes Fab. Lengths	32	30"	16 & 18	† • 4RD*
Horizontal Stripes Garment Lengths	4 to 6	16"-18"-22"	5 to 14	† • SPJ
Jacquard Double Knit Fab. Lengths	24	30"	14 to 18	† • 5RGS2*
Bourrelet Fab. Lengths	24	30"	14 to 18	† • 5RGS2*
Bourrelet Fab. Lengths	32	30"	16 & 18	† • 4RD*
Interlock Fab. Lengths	24	30"	14 to 18	† • 5RGS2*
Ripple Stitch Fab. Lengths	24	30"	14 to 18	† • 5RGS2*
Blister Stitch Fab. Lengths	24	30"	14 to 18	† • 5RGS2*
Jacquard Purl Garment Lengths	4 to 6	16"-18"-22"	5 to 14	† • SPJ
Links-Links Garment Lengths	4 to 6	16"-18"-22"	5 to 14	† • SPJ

*Note — These models have been running double knit constructions for years with time-table efficiency — are long past experimental stages.

• Note — All models will run fine count wools, cottons, blends and synthetics.



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are the K-W-6 Scholl, Steinemer and Pegg machines.

Dyeing of fully assembled full-fashioned sweater and circular knit sweater-strips is done in overhead paddle machines ranging in capacity up to about 750 pounds. The goods are placed in net bags prior to immersion in the dyeing machines. Extraction is done in conventional laundry type extractors, and drying of sweater-strips is performed in gas-fired or electrically operated tumble drying ovens. In the dyeing of Orlon and other acrylics, cationic and disperse dyes are favored, the first for dark and medium shades, the latter for light colors. For wool and the specialty hair fibers invariably the premetalized acid dyes are used.

The one finishing operation which most sweater manufacturers prefer to do on their own premises is sweater washing, a mill process designed to impart a soft luxurious hand to sweaters. Originally, this light milling operation was done in wooden wash wheels. However, these have since disappeared from most plants and in their place mills have installed stainless steel laundry-type washing equipment backed up by a conventional laundry centrifuge and a battery of tumble dryers similar to those used in dye houses.

The sweater washing operation in some plants can be quite elaborate, involving an intricate procedure for transporting goods from wash wheels to extractors to tumble dryers. In some mills, a rather ingenious network of movable chutes have been developed to speed work flow in the sweater washing department.

To reduce the work handling problem in this department, mills within the last year or so have been turning increasingly to the use of combination washer-extractors in which both operations are combined in a single machine. At the recent Knitting Arts Exhibition in Atlantic City several such machines were on display and according to reports were bought in volume.

Aside from these wet finishing operations, most sweater mills also are set up to perform some dry finishing processes. Notable among these is brushing. With hairy type sweaters currently popular, brushing has come back into its own in our industry.

Although there are a number of commission dyers who are also equipped to do brushing, most mills prefer to carry out this operation in their own plants. The operation of sweater brushing should not be confused with napping and shearing which was widely employed in the industry a year or two ago. The latter is a more intensive fabric raising operation and is designed primarily to produce a plush surface on the garment rather than a lightly teased hairy texture. Brushing equipment used consists for the most part of roller units fitted with either steel wires resembling the card clothing on a napping machine or with steel teasles. Of the two, the former is preferred.

Circular knit sweater-strips are usually brushed in continuous form following dyeing. For full-fashioned sweaters, a technique has been developed to brush garments that have been fully assembled except for gros-grain, buttonholes and buttons.

Pressing — There are three ways in which sweaters knitted on a circular sweater-strip or full-fashioned basis are pressed: (1) on open buck without use of forms; (2) on a conventional steam press to which aluminum body size forms are affixed; and (3) the Paris steamer, a steam press shaped in body form.

Of the three methods, probably the most common is the first, largely because it is the simplest and requires the least capital outlay. Mills pressing sweaters in this way have developed their own specialized techniques for speeding up the operation and for handling garments of different fibrous composition.

Use of aluminum forms in the pressing of garments has been growing. Mills producing men's and boys' sweaters make greater use of these forms than do mills which manufacture women's, misses' and girls' sweaters. The reason for this is that many men's wear mills knit their garments on body size machines and prefer to carry this principle through to the final pressing operation.

The forms used in this method are specially engineered to handle a variety of sweater types and sizes. There are special forms for crew neck garments, long and short sleeve sweaters,

and V-neck garments. The forms are mounted on both open top steaming tables and conventional garment presses equipped with a top buck. The frames are clamped to the table by means of a holding rod and can be pivoted on the bar at any point within a 90° angle. This permits the operator to dress and undress the form and steam the garment flat. Each of the frames has a grooved side to assure perfectly straight seams. The frames are so constructed that the rib trim during pressing will not be subjected to steaming.

The Paris sweater steamer and presser is a marked departure from the two conventional methods of sweater pressing just discussed. The finisher is a vertically built unit, mounted on top of which is an aluminum sweater form which can be varied for either long and short sleeves and for different size garments. The sleeve supports can be raised to the overhead position and the side shapers contracted to simplify dressing the form. In pressing, the sleeve supports are lowered to the spread eagle position and the side shapers are expanded to the given sweater size. Except for the operation of placing the garment on and removing it from the machine, every step of the process is completely automatic. In use, the Paris sweater steam finisher is manually set to a given sweater size. The garment is placed over the machine's moving members which expand by compressed air action to the exact positions for the given size. Steam emanating from a high pressure boiler at the base of the machine is applied uniformly to the garment except at the neckline or rib waistband where it is either withheld entirely or its intensity diminished. Drying is done by heated air from an electrically driven fan also at the base of the machine.

Some mills utilize these machines to the exclusion of all other types of pressing units. In many mills, however, they are not used at all or are utilized only for certain types of garments. One type of garment for which the Paris presser is especially favored is the pressing of Ban-Lon sweaters and sweater-shirts immediately prior to thermosetting to assure complete removal of creases and wrinkles

from the garment before it goes into a thermosetting autoclave. Mills that utilize the Paris presser for this specialized purpose may or may not also employ it for final pressing. When used as an aid to quality thermosetting, the machine removes wrinkles and other knitting distortions and exactly frames the sweater to the size specification desired.

Materials Handling—Knitted outerwear manufacturers are first beginning to become aware of the potentialities offered by various materials handling systems. These systems are adaptable to all departments of a knitting mill. They can be employed in the knitting room, the sewing area, pressing department, as well as in the storage area and shipping department. Mostly, however, mills have favored installation of these systems in sewing rooms, pressing departments and in such final operations as packaging and shipping.

There is no question that a mechanical materials handling system can promote smooth work flow from department to department in the knitting plant. Such a system also can effectively reduce the material flow time in the plant. Another and equally important advantage is that the operating efficiency in the plant itself is greatly enhanced when goods are made more quickly and readily accessible in the department.

In considering a materials handling system for their plants, knitting mill executives have a choice of many different systems, applicable either on a plant-wide or sectional basis. A materials handling system, for example, may encompass the complete work flow of the plant, starting with the receipt of the raw material and ending with the packaging and shipment of the goods or it may cover just one or a limited number of operations.

Few knitted outerwear mills in the States boast an elaborate, plant-wide materials handling set-up. In most mills a mechanical method of materials handling is more likely to be installed in a particular area of the plant to meet a special production problem such as overcoming a bottleneck, speeding up an

(Continued on Page 15)

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It is found that the items received are mostly for one or three purposes:

1. To goods from in a mu-

2. To and with one sewn

3. To and ship

In setting up a handling system for goods from in a plant, more flexible mills may be used or mobile units may be used between stations. These may be either a single unit or a simple unit. These are located on the floor and connected to the conveyor belt to the station and then to the conveyor belt to the lower station.

Mobile conveyor units may be elaborately designed or simple, each fitted to the needs of the plant.

Automatic systems for knitting may be individual mill or bank speed goods into the sections of the apparatus. The tire pressure may be eliminated in this section of the automatic system.

Technology Of Sweater Making

(Continued from Page 13)
operation, and/or reducing dependence on manual labor.

It is for these reasons chiefly that the materials handling systems recently installed in mills are most commonly employed for one or all of the following three purposes:

1. To control the flow of goods from one floor to another in a multi-story knitting plant.
2. To convey goods speedily and without interruption from one sewing operation to another.
3. To speed up the packaging and shipping operation.

In setting up a materials handling system to control flow of goods from one floor to another in a plant located on two or more floors in a loft building, mills may use either a stationary or mobile system. The former invariably consists of a chute between floors. The chute may be either a metal cylindrical duct or a simple wood or metal slide. These chutes are generally located on each floor at the end of a production line. Upon the completion of the last operation on the floor above, the goods are bundled and slid down the chute to the floor below. A collecting station is set up at the base of the chute to schedule the goods to the different operations on the lower floor.

Mobile forms of floor-to-floor conveyors are, of course, more elaborate. In one mill the floor conveyor operates on an automatic cable system. The movement of the conveyors is upward or downward as required and on each floor the conveyors can be positioned by a rotary to travel the length of the floor.

Automatic materials handling systems are also adaptable to knitwear pressing rooms. One mill recently installed a series of individual conveyors next to its bank of pressing machines to speed movement of pressed goods out of the department and into the examining and folding section. Not only has this system appreciably speeded up the entire pressing operation but it has eliminated a serious bottleneck in this department as well as in the adjacent examining and folding room.

Conveyor systems employed in packaging and stock rooms of knitting mills usually are in the form of endless belts. Sometimes, however, they may be in the form of gravity type slides or rollers or basket type conveyor.

NEW PATENTS

NEW METHOD PATENTED FOR LOOP CRUSHING IN KNITTING PILE FABRICS — New pile loop crushing method and apparatus invented by Brooks Stevens, Jr., of Concord, Mass., has been granted U.S. Patent No. 2,996,904, which the inventor has assigned to Ames Textile Corporation, Lowell, Mass.

The new method is for use in the knitting of pile fabrics in which cooperating needles and elements are used in separate beds to draw relatively elongated loops of pile yarn retained extended by the elements until completion of pile loop holding stitches by the needles. The patent covers the method of forming cut pile, while the loops are retained in extended condition, including the step of crushing both legs of the drawn loops against the elements containing bed immediately adjacent the bight ends of the loops to sever both legs of the loops without yarn tension to produce the same length of pile legs to form an even cut pile.

* * *

NEW WARP KNIT FABRIC WITH ELASTIC YARN PATENTED — New elasticized knit fabric invented by Asajiro Ichibe of Tokyo, Japan, has been granted U.S. Patent No. 2,996,906.

The new patent covers a warp knit fabric with elastic yarn so knitted to it that each of the resulting wales is composed of needle loops of textile yarn alternating with needle loops of the elastic yarn. The two kinds of needle loops are aligned walewise in alternate arrangement. The resulting courses are composed alternately of needle loops of textile yarn only and needle loops of elastic yarn only, the elastic yarn extending past and forming no loops in the courses wherein the textile yarn forms needle loops, and the textile yarn extending past and forming no loops in the courses wherein the elastic yarn forms needle loops.

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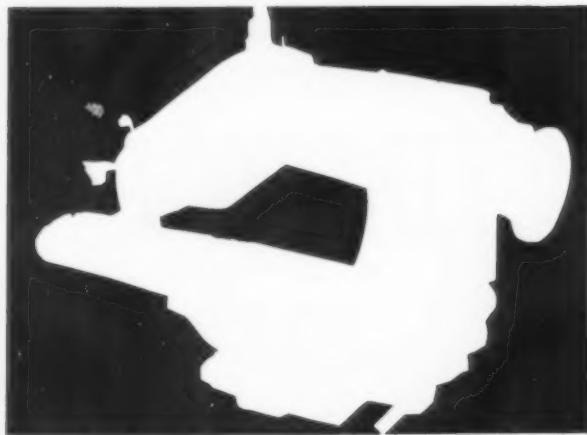
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"SEWING, CUTTING, PRESSING & FINISHING REVIEW"

Knitwear manufacturers are now paying greater attention than ever to their fabricating departments. The need for more efficient operation — to overcome labor shortages, keep pace with productivity of high speed knitting machines and improve quality—is stimulating very serious study — and action!

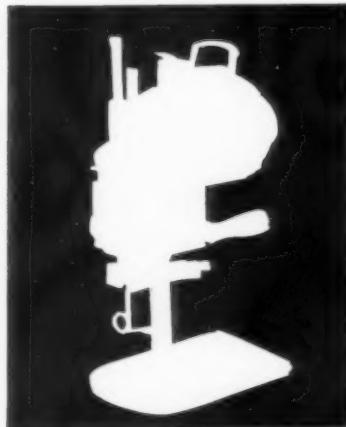
Realizing that today knitters must do more than "tend to their knitting," the "Times" — in its newest special issue — will focus its powerful editorial spotlight on NEW AND IMPROVED MACHINERY, EQUIPMENT AND TECHNIQUES RELATED TO KNITWEAR FABRICATION.

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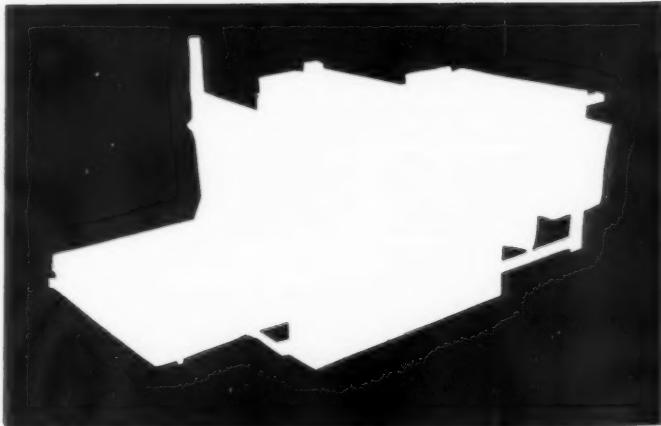
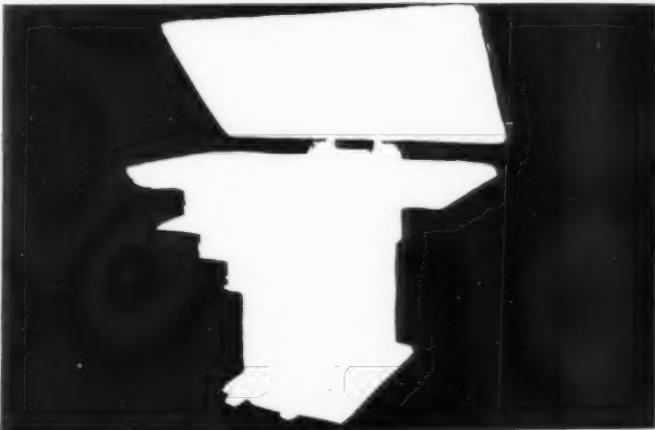
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- "Trends in Sewing, Cutting & Processing of Sweaters, Knit Shirts and Knit Dresses"
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Knitted Outerwear Times

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MURRAY HILL 3-7520

Swimwear From Abroad**European Scene Reflects Many Moods In Style And Color**

A casual waistline tie details this smart Helanca and rubber knitted sheath patterned in an unusual stripe.



Lavished with lace, this French bikini with wire bra is made of cotton printed in a tiny foulard design.



Vari-sized stripes are met by rolled piping in the dark ground color of this suit. A maillot, it has wide, built up straps and scooped out V-back.

Helanca and rubber are knitted in a three-color horizontally striped ottoman ribbed fabric on this square neck maillot.



The true French bikini made of cotton poplin is edged—both on bra and trunks—with a row of lace.



The classic tank-top maillot is a pure and simple background for this three-color geometric jacquard.



Photos Courtesy, Büsing & Co., Reutlingen, Germany.



Call it what you will, this is the new yarn concept that is taking the fashion world by storm — and Caron goes *all the way* to give you the "extras" that set your knitwear apart from the crowd. For instance, Caron will custom-design your yarn for extra distinction . . . vary the diameter and length of slub, as well as the distance between slubs, to prevent objectionable "patterning." In color, we offer not only solids, heathers, and marls, but our own unique multi-color treatment with a "magic strand" that adds a shock of color contrast for special design interest. Choose wool or Orlon Sayelle, or any of a wide range of other synthetics, natural fibers, or blends . . .

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Men's & Boys'**Synthetics And Blends Predominate At Philadelphia Apparel Club Show**

By ALLEN SOMMERS

PHILADELPHIA, Pa.—Synthetics and synthetic-blend knit shirts in colors reaching to way out were predominant in the knitted outerwear on display at the holiday and spring show of the Men's and Boy's Apparel Club of Philadelphia this month.

Salesmen were enthusiastic about the blend treatment in men's and boy's knit shirts and reported sales in this line running ahead of last year.

Sweaters, however, were moving more slowly, primarily, manufacturers' representatives said, because of the unseasonable warm autumn which continued through the four-day show conducted November 5-8 at the Benjamin Franklin Hotel.

Most salesmen felt that the sweater business still could improve, particularly in fill-in orders for the holidays, if a two-week cold snap hit the city, spurring retail buying.

One of the newest synthetics

being widely used by several manufacturers for knit shirts and sweaters is Sayelle. Although the fiber costs more, industry representatives said, they encountered no reluctance from the buyers who have found these items to run about \$1.50 more.

Received with exceptional enthusiasm by the buyers was the knit sweater-shirt done in a variety of styles.

There was no one particular color trend evident although bright stripes and orange and black combinations stood out in many of the showrooms. White and black, accented by contrasting piping, continued to be standard best sellers in any of the knitted items.

New at Kaynee Co., according to its representative Marvin Levine, was the denim look in knit shirts in a button-down collar, placket front and the poncho tail. Blends prevailed throughout the line, Mr. Levine said,

permitting greater freedom in styling and color choice.

Kaynee, which manufactures sportswear for boys, offered combinations of cotton shirts blended with silk, rayon, Dacron or Arnel in varied multi-color stripe treatments. All-cotton shirts in the basic colors also were available.

In their swimwear, shirts were teamed up with swim trunks in what Levine described as the company's nautical look.

He said that although there was some talk about over-the-counter sales in knit shirts being down, buyers were being attracted by an eye-catching colorful line and that sales were on the increase. The Kaynee line retails for approximately \$2.95.

Full-fashioned Ban-Lon shirts in plain colors and stripes and in a wide choice of styles were featured in the showroom of Puritan Sportswear for men and boys. Among the 23 colors available, Robert Rothschild reported, apple, mango and regatta blue were particularly well received.

One of the newest and most popular shirts retailing at \$8.95, he continued, was the 3-button

placket, cardigan front, fashioned after the Italian wool sweater. Another in a similar style, moving "very well," he noted, was a white shirt with blue piping, retailing between \$12.95 and \$15.

The outstanding number in the less expensive line, Mr. Rothschild said, was an 80 per cent Orlon-20 per cent cotton shirt selling at four dollars.

In sweaters, Puritan has come out for the first time this year with a collarless cardigan his and hers set for golfers in white, trimmed with black and gray piping.

The spring line for sweaters featured an Orlon-Sayelle link-stitch treatment to achieve an alpaca look. All the sweaters were collarless cardigans with big pockets.

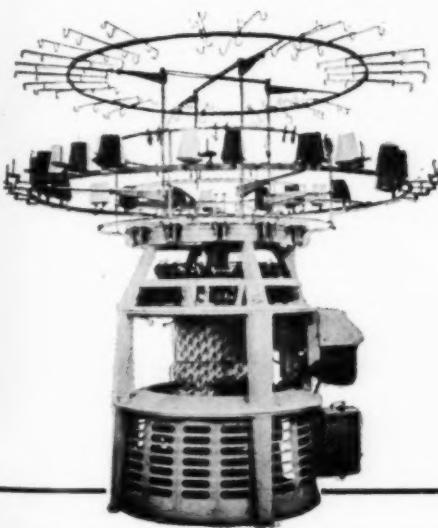
According to Rothschild, booking was well ahead of last year.

Jose Miller, representative for Himalay Sportstogs, reported more synthetics than cotton in the line with Antron and Sayelle the predominant fibers in both sweaters and shirts.

Alpaca stitch, white Orlon
(Continued on Page 21)

LEBOCEY MODEL "NOPAVIT"

Circular Jacquard Rib Machine for the Finest Knitted Fabrics



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Sayelle shirts for men were styled with "V," crew or Continental necklines and were among the most popular numbers. Although the line tended to be more subdued in color, selections in orange, orange-charcoal and orange-black combinations were available. Another popular number was a white Orlon Sayelle tennis sweater, Mr. Miller said.

The more expensive line in sweaters retailed from \$12.95 to \$25 and in shirts, from \$5 to \$10.95.

Sayelle knit shirts and sweaters in an alpaca stitch also were predominant at Pauker Bros. in the better line and were being accepted strongly, according to Irving Lastar, representative.

The biggest selling item, manufactured under the trade name Welgrume, Mr. Lastar said, was the sweater shirt offered in a variety of styles and high colors including a red, white and blue, collarless cardigan number. All the shirts and sweaters featured pockets and sold from \$5.95 to \$15.

Another item selling well, he continued, was a cotton regatta shirt, to be worn in or out, featuring a four-button front and collarless neckline in blue trimmed with black.

Magenta Still Good

Because knit shirts are most popular among the young men, the representative pointed out, the manufacturer has made 70 per cent of this line with tight sleeves. Magenta was being ordered by nine out of ten buyers and pistachio almost as frequently.

At Gama Creations, shirts were favored in an orange-black combination, a carryover from its popularity in the fall, Larry March explained. In addition, Mr. March said, a great deal of interest has been expressed by the buyers for lemon and the staple black and white.

Another fall style carried over into the spring line, the representative pointed out, was the double breasted shirt jacket featuring an Italian or Continental collar.

The shirt-jackets and button fronts comprised 40 per cent to 60 per cent of the Gama business, March continued, and included such other treatments as vent collars and sleeves, the rolled Continental collar, inside pockets and double breasted

fronts. All have contour bottoms.

Shirts were offered in a satin stitch with a chain or jacquard or basket weave look and in loop cotton.

Also new were the cotton fleece sweatshirt type knits and button front or popover terry shirts, both predominantly for beach wear and made in a variety of high shades, March said.

The line, retails from \$3.95 to approximately \$15 the latter offered in a heavy Ban-Lon sweater-shirt in olive green.

Knit Cardigans Are Popular With Men

COEUR D'ALENE, Idaho—Manager and men's wear buyer for the new Pearson's Clothing Store at the Northview Plaza Shopping Center, Kenneth Pearson, says that laminated types of sports jackets particularly those knitted types laminated to polyurethane foam are promising to develop into strong sales items, but as yet are moving rather slowly in the men's wear clientele of their new store which opened August 18. He says that his wife who buys for the women's department of the store, has found that full-length coats of knitted synthetic laminated to polyurethane foam are going over very fast as winter comes on and women buyers see the lightweight, yet definite warmth required by the northern Idaho climate. He feels that black and red have been good selling colors.

Winter knits, particularly cardigans with a loose chain knit and variegated ribbing are selling very well to the men. Mr. Pearson, who has been in the men's clothing business for several years in a smaller shop in the same town, says that these standard cardigans with V-necklines have shown strong sales interest for quite some time.

Jordan Leff Named Puritan Chicago Agent

CHICAGO, Ill.—Jordan Leff has been appointed Chicago sales representative for the Puritan Sportswear Corp. replacing Paul Gilmarin, who is now representing the Rich Guild Shirt Co.

Mr. Leff was formerly with Silton Bros. of California, a men's outerwear firm.

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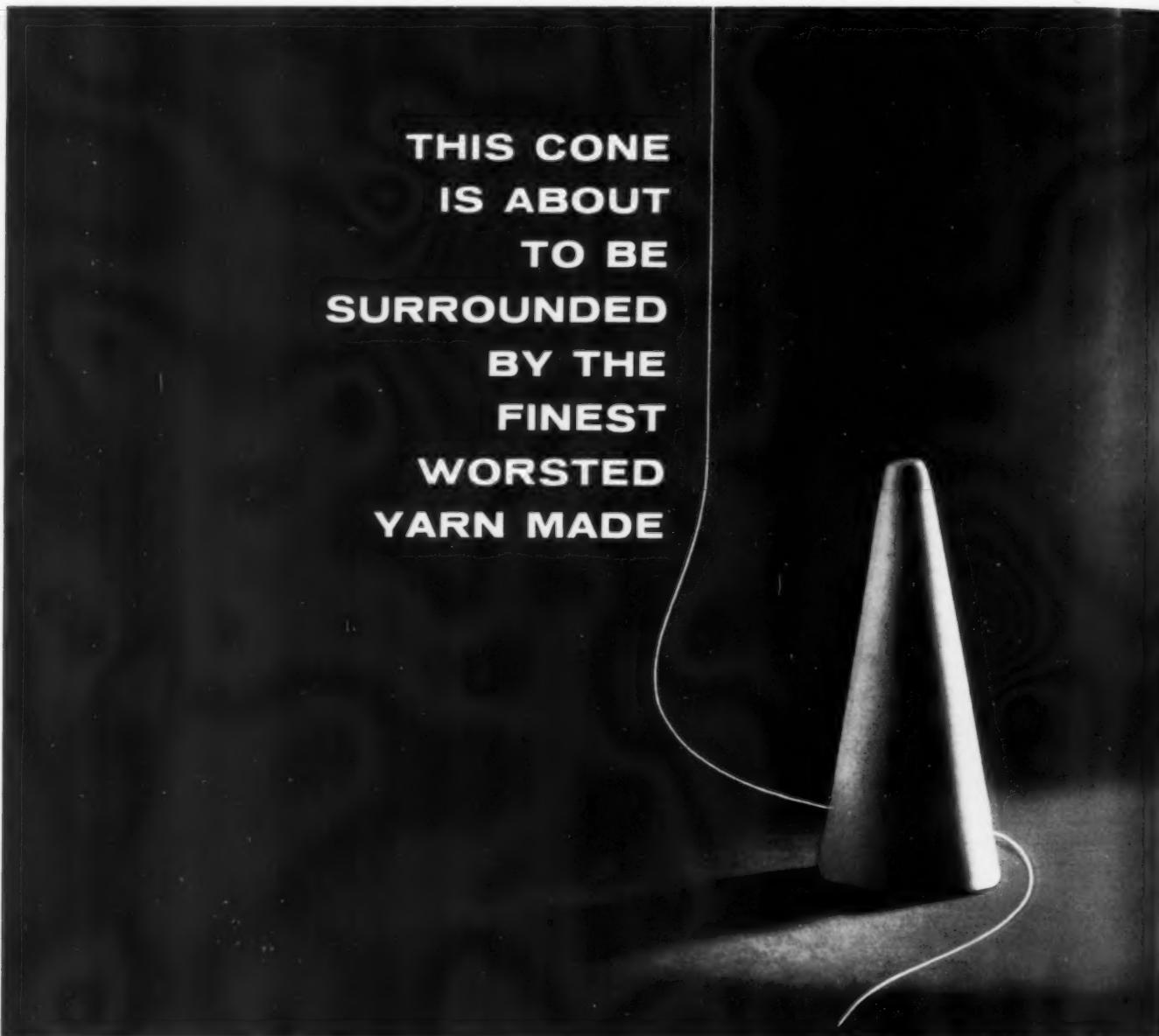
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Cyanamid Offers New Type Fiber

(Continued from Page 3)

at temperatures as low as 175° F., with much of the exhaustion occurring between the temperatures of 180° F. and 190° F. A temperature of 205° F. has been found sufficient to achieve maximum penetration, shade development and fastness on Type 61. In contrast, in the dyeing of competitive acrylic fibers, the initial strike does not usually occur until the bath has reached 180° F. to 190° F. and it is necessary to heat the bath to 210° F. or 212° F. to insure good penetration, shade development and fastness.

"While we are not yet ready to define precisely the extent to which the use of retarders can be eliminated in commercial dyeings of Cyanamid's Type 61 fiber with cationic dyes, retarders have not been required in laboratory dyeings. More field experience is required to prove conclusively that retarders are unnecessary on the commercial scale."

Dr. Harsh expressed the

opinion that as between disperse and cationic dyes the former "will find broad applications in dyeing Type 61 in 100 per cent form. Only in achieving the brightest shades will the use of basic dyes be required." He stressed, however, that disperse dyes "produce their outstanding results when used to dye Type 61 to dark shades."

In commenting on the fact that Type 61 fiber does not accept acid dyes, Dr. Harsh asserted that "perhaps the broadest dyeing potential for Type 61 lies in its use with the present Type 58 fiber in constructions which will enable mills to cross-dye fabrics of 100 per cent Cyanamid acrylic fiber in a one-bath procedure to create heather, pattern and other two-color effects."

Coarser Denier Avril Commercially Available

PHILADELPHIA, Pa.—Fiber 40 stable rayon, which is being produced in 1.0, 1 1/4 and 1 1/2 denier staple, has been made commercially available in 3.0 denier sizes from American Viscose Corporation.

George L. Storm, vice president and director of sales of the fibers division said that with heavier denier per filament, "the fabrics have a firmer, drier hand. The 3.0 denier fiber will be of particular interest, especially across the board in blends with natural and various synthetic fibers."

DuPont Establishes Knit Products Unit

WILMINGTON, Del.—The DuPont textile fibers department has announced the establishment, effective January 1, of a knit products section to coordinate all elements of the knitwear industry. The move is part of a realignment of marketing services and personnel.

Don W. Gay, returned from his assignment with DuPont International, S.A., Geneva, will be in charge of the new section.

Charles E. Mears will be manager of a new expanded women's wear and converter relations section. Gomer H. Ward was named assistant manager, in charge of women's ready-to-wear, including all programs with converters.

DuPont activities with retail stores, chains and buying offices will be combined under William C. Skilling.

Donald F. Holmes will head a men's wear-utility marketing service, which will include tailored clothing, furnishings, sports-wear and utility clothing.

Courtaulds (Ala.) Settles Strike In Mobile

Courtaulds (Alabama) Inc., has settled the six-week strike at its Mobile, Ala., plant.

Under the new three-year contract with the Textile Workers Union of America, Local 1465, there will be no wage increase this year. The first increase, five cents an hour, will become effective April 1, 1962, and a second increase of two per cent July 1, 1963.

Production has been restored to normal.

Vyrene Capacity Raised

United States Rubber Co. has completed its second expansion program this year at its Gastonia, N. C., plant for the production of Vyrene, the new spandex thread.



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New Bulletin Describes Acrilan Tow Processing

A technical bulletin on processing Acrilan tow on the Turbo Stapler has been issued by Chemstrand Corporation.

The bulletin covers all phases of processing Acrilan on the stapler, which uses the stretch-break principle in direct conversion from tow to sliver in yarn manufacture.

Garments of Acrilan processed on the stapler have a soft hand, lightness, warmth and strength, according to the bulletin.

Dow And Metlon Settle Suits On Metallic Yarn

MIDLAND, Mich. — Settlement of two metallic yarn patent suits between Dow Chemical Company and Metlon Corporation has been reached.

Metlon has been granted a license under the Dow patents and has arranged to satisfy Dow's claim for past infringement damages.

Dow instituted the suit in February 1959, claiming that Metlon was infringing two patents for the manufacture of metallic yarn. Metlon brought suit against Dow to declare one of the patents invalid. Dow then filed a counter claim of infringement.

Dow manufactures Lurex in Cleveland. Metlon, a subsidiary of Acme Backing Corporation, manufactures Metlon metallic yarn in Stamford, Conn., and Providence, R. I.

Dow And Metal Film In Metallic Yarn Accord

An exclusive license to manufacture and sell a coated metalized yarn has been granted by the Dow Chemical Company by Metal Film Company, Inc., New York City.

The patent covers both Lurex 50-C, Dow's trademark, and Chromeflex NL, Metal Film's. Other pending applications on improved and varied yarns also are included in the agreement.

Metal Film retains manufacturing and selling rights for Chromeflex NL.

Dow has no present plans to grant sub-licenses.

The companies have agreed to cross license any patented improvements in the field of the agreement.

Lurex 50-C and Chromeflex NL are used in women's knitted and woven apparel.

Avisco Fibers Division Promotes Two In R & D

MARCUS HOOK, Pa. — American Viscose Corporation's fibers division has made the following promotions:

Dr. James P. Dux to section leader of the acetate fiber section, replacing Dr. M. Thomas O'Shaughnessy who resigned.

Joseph W. Schappel to section leader of the viscose fiber sections. He will be responsible for viscose staple and filament yarn.

Dr. Dux joined the firm in 1954 as a research chemist and was named group leader in research and development in 1957.

Mr. Schappel has been with American Viscose since 1945. Since 1959 he has been a group leader in research and development.

Yarn Suppliers

Modernizing Started By American & Efird

WHITINSVILLE, Mass. — American & Efird Mills, spun fibers division, Whitnel, N. C., has undertaken a major modernization program by purchasing 39 new Whitin spinning frames and three roving frames.

The 39 spinning frames are Model NW, American system spinning units, the first of an entirely new model developed by Whitin for processing worsteds, long staple synthetic fibers and blends. They are 240 spindles in length and four-inch gauge. The three roving frames are Whitin Quik-Set, American system roving frames, 96 spindles in length, producing 14 x 6½ inch bobbins. The equipment is scheduled to be delivered in February.

In commenting upon the transaction, Allen Dickson, vice president of American & Efird Mills, stated: "The fact that we are ordering this new equipment for the spun fibers division at this time is indicative of American & Efird's aggressive policy of installing the newest and most productive equipment available even though it means that the machinery being replaced has not yet been fully depreciated."

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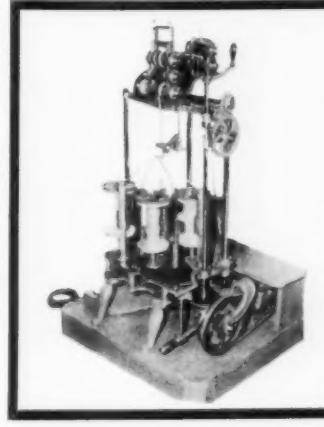
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Wool Advisory Unit Proposes Quotas System

(Continued from Page 1) lives were on the Committee. However, although the President's program for the textile industry was announced last March, stressing the urgency of prompt action, the meeting of the wool group held on November 27, was the first time since the launching of the textile program that the wool advisers had been convened.

Adverse View

It was understood that many members of the Committee took an adverse view of the government's subdividing the textile program into different fragments according to fiber use and treating them in a sequence not logically related to the nature of their common problems. The Committee favored application of the quota system not to wool but to the other fiber products not yet treated under the textile program.

The Cotton Textile Advisory Committee has been meeting separately and has been active since the inception of the program on cottons, beginning with the discussions in Geneva on the provisional agreement. These talks commenced in July.

Government Representatives

The chairman of Monday's wool meeting was Assistant Secretary of Commerce Hickman Price, Jr. The other Government representatives present were: Stanley Niemer, of the Department of State; D. F. Moynahan, of the Department of Labor; Thomas McMullen, of the Department of Commerce, and Thomas Jefferson Davis, of the Department of Commerce.

Besides Mr. Korzenik, other management members of the Textile Advisory Committee were: William Kent, president of Kent Manufacturing Company, who served as industry spokesman for the group; John Baum, of J. P. Stevens; Ely Callaway, of Burlington Industries; George Dorr, of Dorr Woolen Company; Leon Frechtel, of Harry Frechtel Corp.; Herbert Ferster, representing the men's clothing industry; Richard Goodrich, of the Boston Wool Trade Association; Ronald Mitchell, Cyril Johnson Woolen

Co.; Edwin Wilkinson, president National Association of Wool Manufacturers.

The labor section of the Advisory Committee consisted of Sol Barkin, Textile Workers Union; Roy B. Groenert and Frank Schoffbill, of the United Textile Workers of America; Milton Fried, Amalgamated Clothing Workers' Union; and Lazare Teper, International Ladies' Garment Workers' Union.

Cotton Committee Views Procedure

(Continued from Page 1)

monthly statistical data reflecting the trends. For this purpose, the Department of Commerce has reorganized its data-collecting machinery. Under the new system, it is expected that statistics on imports for each month will become available six weeks after the close of the month.

Assistant Secretary of Commerce Hickman Price, Jr. presided over the meeting. The group visited the Bureau of Census and had lunch there, after reviewing and inspecting the procedures that are being used to make monthly statistics available. Statistics on imports by categories for the month of October of this year, the first month for which the new Geneva Agreement is effective, will become available on December 15.

A strong statement was made on behalf of the Advisory Committee as a whole favoring the extension of the cotton program to cover other fibers and to apply similar though not necessarily identical safeguards against market disruption in textile products other than those covered by the present Geneva Agreement. This plea brought no specific response from government representatives present.

Progress Reported

Meanwhile, some progress was reported on the long-term cotton agreement. The International Sub-Committee on Statistics was developing common thinking on the gathering of data necessarily for implementation of the prospective pact. The Subcommittee on Drafting is to meet in Geneva on December 10 and the entire International Committee is to hold a plenary session at the end of January, 1962.

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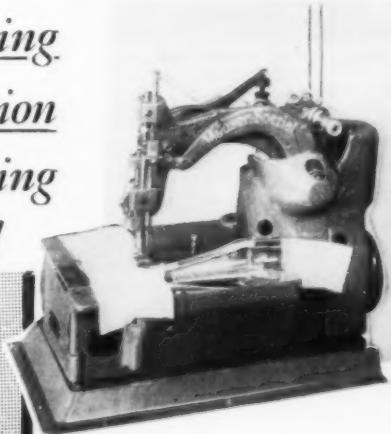
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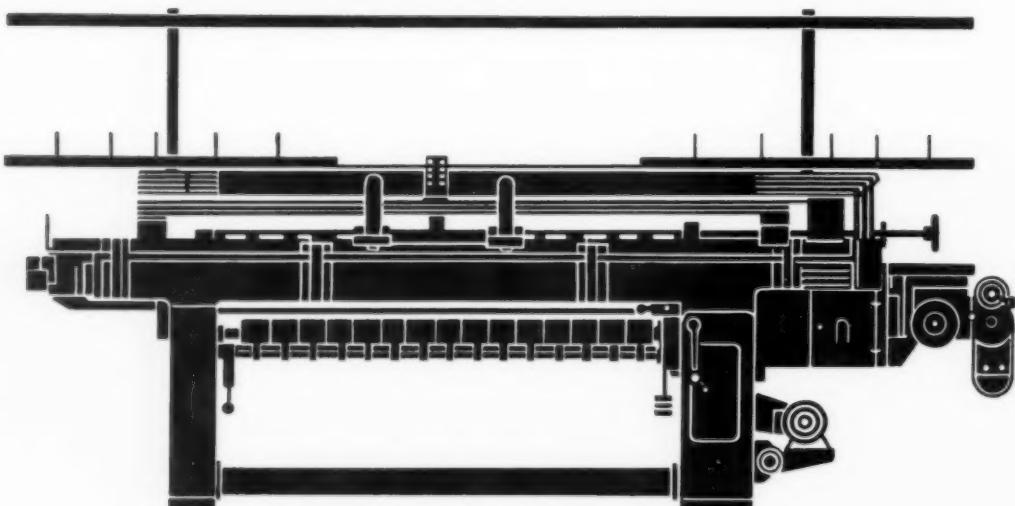
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Women's & Misses'

Exciting Fashions Are Created From Vast Array Of Irish Knits

By ILANA HIRSCH

Clothes fashioned of double knit jersey manufactured by the Irish Fabric Knitters Group were highlighted at an exhibit of the fabrics held November 16 at the Ireland House. The exhibition, held under the joint sponsorship of the IFKG and the Irish Export Board will run until January 31, 1962.

The official opening, a private preview for the press and trade, was marked by a speech by the Right Honorable Robert Briscoe, Lord Mayor of Dublin and the presence of special guests including the Right Honorable Joseph Shields, Irish Consul General of N. Y. and Thomas P. MacCallion, IFKG chairman.

Fashions by Clodagh, a young, successful couturiere of Ireland who designs two collections per year, were modelled along with other knits including some by American designer Renee Karel. All were presented against a background of double knit fabrics — products of the Group.

These included solids and fancies in shades of red green, blue and beige to brown. Jacquards were oval, abstract, check, herringbone, plaid and paisley. There were also many stripes. Interesting constructions for solids were ottoman, fishnet and various raised designs (primarily geometrics). Metallic was utilized in some knits.

Clodagh's Dawn to Dusk collection began with a sports outfit and ended with an elegant, draped hostess gown. The former is a most unusual slack, tunic and cape outfit in Tara Gold (a toned down orange) and black double knit jersey by Faltex of Dublin. The orange, poncho-like cape has low slung pockets and black edging; slacks are tapered with a black guardsman's stripe down the sides and the relaxed but body conscious tunic is black.

Lurex sparkles the hostess gown fabric knitted by Lana Knit of Shannon. Long, tight sleeves are in direct contrast to plunging decollete which is accented by a self fabric chrysanthemum.

Clodagh designed two coats of double jersey fabric; a dramatic cape coat in a Faltes red and black floral relief pattern and a lobster red ottoman cloth by Ernetex of Clones, which has an accentuated yoke and soft,



Sports outfit designed by Clodagh in orange and black consists of poncho-like cape, tapered slacks and tunic. Slacks have black guardsman's stripe up the sides.

standaway collar. Buttons are of Irish crochet.

A shadow plaid by Ernetex, in unusual shades of mushroom and a misty gray is one of the most interesting of the jacquards. In a dress and coat ensemble it forms the coat with low slung flap pockets and small, high-set fob pocket. The dress a simple shift, has low waisted mushroom top; shadow plaid skirt.

Triangular insets in the skirt of a long torso dress create graceful fullness in a lightweight fabric by Sunbeam. Another dress with full skirt has a low waist marked with dimensional cartridge pleating. The skirt gets its fullness from a large, center inverted pleat.

In honeycombed double jersey by Faltes, Clodagh has created a dramatic cocktail dress with high front and plunging back having two draped fabric "wings" beginning at the shoulder and tying low on the waist.

(Continued on Next Page)

A most appears checked jacket for slight fl

Two Sunbeam have a former, has a di et with one sh ally check a lightly

Shadow coat and usual sh misty gr pocket

DECEMBER 4, 1961

31



A most intriguing scarf neckline appears on this black and brown checked suit designed by Clodagh. Jacket fastens to one side; skirt has slight flare and black rouleau loops trim scarf.

Two suits, using Ernetex and Sunbeam fabrics, respectively, have asymmetric lines. The former, in a bouclé solid fabric has a diagonally closed box jacket with a swirled button high on one shoulder; the latter in softly checked black and brown has a slightly flared skirt topped by a



Shadow plaid teams with solid in a coat and shift costume of most unusual shades of mushroom and a misty gray. Coat has low slung flap pockets and high set fob pocket.

side fastening jacket having a slotted scarf neckline. The ends of the scarf are trimmed in black rouleau loops.

Most of the remaining fashions are two- and three-piece outfits. Highlights include a dark brown and silver mist check cardigan suit (Sunbeam), a gray and white hound's tooth check skirt and gray, sailor collared overblouse trimmed in the check fabric (Sunbeam), a heather check suit with side closure, piped edges, musquash collar (Ernestex) and a tunic suit in plum with gray piping and trim (Faltex).

Renee Karel designs were an unusual convertible suit made of a black on brown floral relief and a dress and jacket costume. For casual wear the suit is worn with its large, ribbed double knit cowl circlet bound in the suit fabric. When removed the suit is collarless and more dressy.

The costume is made of an unusual blackberry stitch double jersey and the sleeveless dress has a weighted seam accentuating the natural fitted waistline.

Idaho Town Buying Knits In Installments

KELLOGG, Idaho — Coordinate buying is of greater importance this year than ever before, especially in knits, according to Henry Kohlruss, owner and ready-to-wear buyer for two Henry's Shoe and Apparel Stores, one in Kellogg, the other in Wallace, 10 miles away.

Both stores encourage buying of all types of knits, particularly coordinates which usually have a higher total price than customers can pay for in one lump sum, by generous lay-away policies, and 90-day revolving credit with no extra charge.

Mr. Kohlruss says that Swiss patterns in sweaters are not selling as well as the plain colors, and both cardigans and pullovers in wool are showing heavier sales than ever this season.

Knit jackets laminated to polyurethane foam are being stocked, but are not being purchased with nearly the volume that long coats of similar fabrics are selling.

About 60 per cent of the knitwear buying in these two stores has been among customers who purchase knit dresses in wool, synthetics, and cotton.

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Equipment Firms

Singer To Move Offices To Rockefeller Center

Executive offices of the Singer Manufacturing Company, which have been in the Singer Building at 149 Broadway since it was built in 1908, will be moved to Rockefeller Center next fall.

The company announced the signing of a long term lease for the 58th to the 63rd floor at 30 Rockefeller Plaza, approximately 136,000 square feet. The space is presently occupied by the American Cyanamid Company which is moving to Wayne, N. J.

Photoelectric Technique Guides Splitting Knife

SOMERVILLE, N. J. — A photoelectric splitting knife guider is being produced by Matrix Controls Co., Inc."

In tenting or drying when wide goods are split emerging from the frame, the cut must frequently be made between parallel rows of gum spots applied at the feed end to prevent edge curl. Variations in yarn tension and other factors disturb the cutting path between gum spots.

According to the company, the guider's photoelectric technique senses the position of the gum stripes and automatically centers the knife even when the gum is hard to see.

Singer-Fidelity Holds First Marketing Meeting

PHILADELPHIA, Pa. — Singer-Fidelity, Inc.'s marketing meeting at the Sheraton Hotel was attended by representatives from the U. S., Canada, and South America.

The speakers were: Robert

Peel, vice president research; Peter A. Mahler, vice president development; John DeMoss, vice president manufacturing, and Charles B. Holdsworth, controller.

R. G. E. Ullman, Jr., outlined advertising plans and Daniel Brier, market research specialist, reported on the hosiery market.

Green Asso. Consultants Establishes Market Group

Abner B. Green Associates, production engineering consultants, New York City, has established a division of marketing and market research under Arthur N. Adelman to assist clients here and abroad in market research, in product evaluation, and development.

The firm has offices in London, Milan, Zurich and Amsterdam.

Dyeing & Finishing

Elliott Morrill Elected President For 1962

CHICAGO, Ill. — Elliott Morrill, plant manager, Com Products Company, Indianapolis, has been reelected president of the American Association of Textile Chemists and Colorists for 1962.

National vice presidents elected were Dr. J. Edward Lynn, a consultant to the textile and related industries, Old Greenwich, Conn., and Joe D. Mosheim, manager, Crystal Springs Bleachery Company, Chickamauga, Ga.

Vice presidents reelected were William S. Sollenberger, assistant head, dyeing and finishing division, American Viscose Company, Marcus Hook, Pa., and Joseph H. Jones, general manager, Phoenix Dye Works, Cleveland.



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Ciba Line Adds Yellow And Gray Paste Dyes

Ciba Company Inc., has added two shades to the Cibeline line, Yellow 2G Paste and Gray 2GF Double Paste. Yellow 2G Paste is a level dyeing bright, golden yellow with reportedly good fastness to resin washing.

Gray 2GF Double Paste is a greenish gray for charcoals, dull grays, forest, dark greens and navies. According to the company, it shows good all round fastness properties and is suitable for piece, package and beam dyeing.

DePaul Chemical Adds Tanks And Boiler Plant

The De Paul Chemical Company, Inc., Long Island City manufacturers of textile specialties, is completing installation of new stainless steel tanks and boiler plant.

Columbia Dyeing Adds

PHILADELPHIA, Pa.—Columbia Silk Dyeing Co., Inc., here, has added equipment and space to give it a total of 75,000 square feet. The cost was not disclosed.

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- SWEATERS
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BOX 500X

FOR SALE

Complete wash plant with 4 dryers, almost new.
2—LH, 7 cut, 30", set on Jacquard.
1—Queens Double Head, 8 cut border machine.
BOX 500Y

FOR SALE

1—TJ, 28", 9½ cut, 6 feed, 4 col. strip.
1—TAI, 30", 5 cut, 6 feed, 4 col. strip.
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Extra 16½ cut needle beds for TAI.

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14-16 point P-Loopers.

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FOR SALE

Specially built Wildman Jacquard M.L.W., fully automatic 28 inch 960 needles. These machines can be run on 24 feeds with wheels on yard goods, 22 feeds and 2 feeds for separation with wheels on interlock strips with 1 x 1 tail, or 12 feeds on Jacquards; equipped with 22 four color stripers and 72 end stop-motions. Both machines are set up on Jacquard and can be seen in operation.

CLOVER KNITTING MILLS, INC.
M Street and Erie Avenue, Phila. 24, Penna.

WANTED

Philadelphia Jacquard LH machine, 6 cut, 30", 6 feed. Advise serial numbers, condition, number of stripers on each feed, number of end stop-motions, price of same and where they can be seen.

BOX 500

MACHINERY FOR SALE

- 1—Jacquard AI, 16½ cut, 32", 32 feed
- 1—Jacquard LHB, 4 cut
- 7—Jacquard TA, 5 & 12 cut
- 2—Jacquard LH, 28", 7 cut
- 3—Jacquard LH, 30", 8 cut
- 3—Jacquard TJ, 28", 8 cut
- 2—Jacquard TA-12, 30", 10½ cut
- 1—Jacquard TA-12, 30", 11 cut
- 2—Jacquard TAI, 16 and 16½ cut
- 1—Jacquard TAI, 13½ cut, stripers
- 1—Philip, 15 cut, 30", 32 feed
- 1—Scott & Williams MFRC, 30", 14½ cut
- 20—Stoll JBO, hand flat machines, 5-12 cut
- 1—Supreme BRW, 30", 4 cut, 16 feed
- 5—Universal Supramat, 63", 4 cut
- 5—14 point Sotco "P" loopers
- 1—Queens, 12 cut, 60", Model B
- 5—Morat, 16 cut
- 2—Universal 6 spindle backwinder
- 7—Lamb, Dubied, Grosser machines, 5-14 cut
- 5—Brinton revolving take-up, 24", 18 cut, 64 feed

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MACHINERY WANTED

6 cut BAN, CAL, BARB and/or Queens Tandem, must be in A-1 condition. Running Jacquard and/or true cable.

BOX 508

FOR SALE

1—Brinton necktie machine, 13/4" 4 color, perfect condition including extra cylinders and parts.

1—Dubied flat power 16 gauge.

BOX 500K

WANTED TO BUY

1—30" Jacquard LH, in good condition. Write:

BOX 500Z

FOR SALE — IMMEDIATE DELIVERY

7—Morat (Moranit) circular knitting machines (new and in original crates) Model SEUMA 30" diameter, 16 cut, 24 feeders, 1560 needles, Birds Eye backing attachment, 24 feed wheels, checked pattern equipment, normal spare parts and accessories.

5—Morat machines, same as above, except slightly used. Serial Numbers 283, 284, 301, 327, 340.

All Reasonably Priced.

BOX 500P

FOR SALE — CASH OR TERMS**4—Morat, 16 cut**

- 1—Stoll, 10 cut Jacquard border machine, Model KAMOJ.
- 1—Supreme BRW, 4 cut, 372 N., 9 stripers.
- 1—160-2, Lewis label tacker, with standard motor.
- 2—Jacquard TJI, 30", 12 & 13½ cut, 12 feed, 4 color stripers.
- 1—Jacquard TJ, 8 cut, 6 feed, set on Jacquard
- 4—Jacquard LH, 30", 7 cut, 6 feed with stripers.
- 1—Queens Jacq. V-Bed, 60", 10 cut, Model AJ, practically new.
- 1—Columbia dry cleaning machine, model G.
- 1—Stoll, 10-cut border machine.
- 1—Stein separating machine.
- 8—Jacq. TAI, 30", 6, 13 and 13½ cut, 12 feed, 12 strps. on each.
- 1—Brinton, 18", 14-cut, 24 feed, 792 needles.
- 2—Universals, 63", 4-cut—over 21,000 (serial no.).
- 1—Wildman PB2, 19", 10 cut, with motor attached.
- 1—Dubied VD, 44", 10-cut, Hi-Low butt needles.
- 1—Kastrinsky calender, 54".
- 2—Jacquard TJ, 28", 7 cut, 6 feed each, set on Jacquard
- 1—Jacquard LA, 15", 8 cut, 372 needles.
- 1—S & H, 30", PA, 8 feed, 7 cut.
- 1—Con-Sew clipper, practically new, #20, size 00 #50 Model 88.
- 1—Pernick calender, 60".

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WANTED

Wildman PB2, 22", any cut.

BOX 500C

WANTED: CIRCULAR LINKS

8 and 9 cut, LH-6 or LA-12.

State serial number, location, condition, and best price.

BOX 503

WANTED TO BUY

21 or 24 gauge textile outerwear machines.

BOX 506

FOR SALE1 Grosser, 8 cut, 40" • 1 Dubied, 8 cut, 40"
Both in running condition.GROVE KNITTING MILLS
588 Woodward Ave., Brooklyn 37, N. Y.**WANTED**2 Tandem machines, 7 cut, Links & Links.
State price, serial number and size.

BOX 504

BEST JK BUYS*See the New Mestre Flat Machine*

- 1—Brinton, PR 19, 28", 12 cut, 24 feed, wheels, motor
- 1—Philip, 17 cut, 30", 32 feed
- 1—Supreme BRW, 4 cut, 30", 16 feed
- 3—Phila. Jacq. LH Machs., 6 & 7 Cut, 30", 6 Feed
- 2—Phila. Jacq. TJ, 16" 7 & 8 Cut, 4 Feed, 4 Color Stripers
- 2—Phila. Jacq. TJ, 28", 7 & 8 Cut, 4 Color Stripers
- 6—Phila. Jacq. TAI Machs., 6, 10, 12, 13, 13½, 16½ Cut, 30", 12 Feed
- 4—Phila. Jacq. TA Machs., 10, 11, 12, 13 Cut, 30", 12 Feed
- 1—Phila. Jacq. LA, 10 cut, 30", 12 feed
- 1—OG, model OTA, 13½ cut, 30", 12 feed
- 1—O.G. Multi-Feed Jersey, 1x1 Rib, 8 Cut, 36 Feed, 32"
- 2—Wildman PB2 Machs., 17", 18", 8 Cut
- 1—Lamb Border Mach., Double Head, 6 Cut
- 1—Queens, Model B, 10 cut, 60", high and low jacks
- 1—Queens model BJ, jacquard flat, 10 cut, 60"
- 1—Queens double Jacq. flat links, 8 cut, 54"
- 2—Stafford & Holt machs., 30", 32", 6 & 7 Cut, 6 & 12 Feed
- 1—Backwinder, 6 spindles
- 1—Universal Rotoconer, 20 Spindles
- 3—Steam tables, assorted sizes

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Sale of this equipment includes factory installation.

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EV 7-8678**WANTED**

14, 14½ or 14¾ cut TAI machines.

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WE BUY**AND SELL****ALL TYPES OF KNITTING YARNS****WORSTED — ZEPHYR — ORLON****COTTON — OTHER SYNTHETICS & BLENDS****LEHIGH YARN**Co. 2601 N. HOWARD ST.
PHILA. 33, PA.
REGENT 9-5457**WANTED**COTTON, WOOL, WORSTED, SYNTHETIC and LOOP
YARNS

HERMAN KASLOFF

868 N. Fourth St., Phila. 23, Pa. MARKET 7-0997

WANTED FOR CASHWorsted - Zephyrs - Synthetics - Cotton
We always carry a large stock of yarns, dyed on
cones for immediate use.**CALL EV 8-8277**

BEN BALIF

686 Flushing Ave.

Brooklyn 6, N. Y.

CENTURY

YARN CO.

**FOR SALE
ELASTIC YARN FOR KNITTING**

• All Sizes and Colors

BEDFORD YARN CO.
B 79 Clifton Place
Brooklyn, N. Y.
MAin 2-1340**METALLIC YARN WANTED**1/64 to 1/128 width. Supported or unsupported.
Kindly enclose small reeling.

BOX 405

WE BUY SURPLUS KNITTING YARN

Machine and Hand Knitting Sizes

WALTER McCOOK & SON, INC.

711 Arch St.

Phila. 6, Pa.

WAInut 5-8891

**YARNS
BOUGHT AND SOLD**

SAM SASKEN

1441 Broadway, New York 18, N.Y.
CH 4-8733

CONTRACT WORK, CONTRACTORS WANTED

CONTRACT WORK WANTED

on double knit machines.

BOX 500GG

CONTRACT WORK WANTED

on Philip 17 and 14 cut interlock machines. Ladies' Ban-Ion or Orlon classic sweaters. 1,000 dozen weekly production. Excellent workmanship. For January, February, March with reasonably priced labor.

BOX 500B

**ULTRA-MODERN SOUTHERN
CONTRACT KNITTING MILL
DESires CONTRACT KNITTING**

3 cut

YARD GOODS

through 16 cut

SWEATER BLANKS

GERMAN DOUBLE KNITS

PR FABRICS

RIBS

BORDERS

TRIMMINGS

BOX 500J

CONTRACTORS WANTED

Prominent manufacturer of MEN'S SWEATERS now planning for Fall 1962 seeks reputable contractors capable of making a quality product.

BOX 500CC

CONTRACT WORK WANTED

Ladies' Ban-Ion sweaters on Philip machines. Bulkies on 4 cut Stoll machines, pique on TAI machines. Quality garments.

BOX 500E

ADDITIONAL WORK WANTED

on 4 cut flat machines. Ladies' and childrens' sweaters. Good workmanship. Fast delivery.

BOX 500M

COMMISSION KNITTING WANTED

on 18 inch Supreme machines, 14, 18 and 22 cut.

BOX 505

CONTRACT WORK WANTED

Better full-fashioned men's and ladies' sweaters and shirts, 21 gauge equipment. Top quality workmanship.

BOX 460C

HELP WANTED

KNTTER-MECHANIC WANTED

Experienced only on Universal flat machines.

Willing to relocate.

Year-round position.

Excellent salary.

CAPITAL KNITTING MILLS OF PHILA.

Westmoreland & Collins Sts., Phila., Pa.

GARFIELD 3-0376

**EXCELLENT OPPORTUNITY
FOR AMBITIOUS PERSON**

Knitting machine concern—in metropolitan area—seeks a conscientious man with a good business sense to assume expanding responsibilities (office procedures, correspondence and follow up contacts). Technical experience not essential. A bright future awaits right person.

BOX 500F

YARN MAN WANTED

Thoroughly familiar with all types of yarns, production, purchasing, inventory controls and office procedures. Excellent opportunity. New York City mill. Give full particulars in reply.

BOX 488

MECHANIC OR FOREMAN WANTED

Opportunity to become active partner of large sweater mill. Heavy backlog of orders. Small investment needed.

Phone (N. J.) UNION 6-2200 or Write Box 507

KNITTING MECHANIC WANTED

Opportunity for excellent mechanic. With vast experience on Supreme circular pattern wheel machine.

With knowledge to create designs.

Top salary—numerous fringe benefits.

BOX 502

KNITTING ROOM FOREMAN**WANTED — PHILADELPHIA**

To manage the knitting department of one of the industries largest sweater mills.

We will only consider a man who is a thorough professional in this specific area —

Knitting room MANAGEMENT

Only a man with a proven background will qualify to fill this position —

one of the most important in the industry.

BOX 480A

**FOREMAN WANTED
FOR YARN WINDING PLANT**

Thorough knowledge of Foster machines. Metropolitan area. State salary and experience.

BOX 482

POSITIONS WANTED**OUTSIDE PRODUCTION MAN AVAILABLE**

Experienced on ladies' sweaters and sportswear. Thorough knowledge of cost, yarn and quality control. Contact with contractors outside of New York area. Also have inside mill experience.

BOX 501

SALES MANAGER — SALES EXECUTIVE AVAILABLE

Textile Knits, Sweaters and Hosiery

Thorough experience with excellent contacts throughout knitting industry; manufacturers, buying offices, department stores. Familiar with knitting goods manufacture and technology.

BOX 500L

LIAISON MAN AVAILABLE

Free lance. Men's, ladies' knitwear expert for jobber to mills. Production coordination, quality control and styling.

BOX 500N

BUSINESS OPPORTUNITIES**INVESTOR'S OPPORTUNITY**

- Prominent Canadian knitting mill, with national Canadian wide distribution to the better men's furnishing retail trade, willing to merge with a reputable American knitting mill catering to the men's outerwear fields.
- Present associate, because of retirement age, willing to sell his interest, or both principals will sell outright.
- Preference given to experienced knitter-mechanic.

All replies strictly confidential.
Give full particulars in first letter.
Excellent opportunity for right man.

BOX 500G

MILL WANTED

Interested in buying interest or complete mill, running course gauge (6 or 7 cut) Queens Tandem or similar type machines.

BOX 509

PARTNER WANTED

on patented trimming for all kinds of ladies' and men's sport knit goods. Very attractive. From \$10,000 to \$15,000 investment necessary. Will also consider a reliable concern to work with me exclusively.

BOX 500S

PARTNER WANTED

by knitted suit and dress mill
for expansion into DOUBLE KNITS.

BOX 500T

MORAT CLOTH

Production and/or machines available. Interesting proposition for responsible firm or party.

BOX 480L

HAVE BRAINS, WILL INVEST

CAPABLE knit goods manufacturing consultant (M.E.T.E.I.E.) will invest his services plus substantial capital in mill that promises growth, where his brains and ability are put to work (or will buy outright.)

BOX 500R

PARTNER WANTED

with ability to take charge of production in a bulky plant. Small capital.

BOX 500H

REPRESENTATIVES, LINES WANTED**WANTED
WILDMAN SPRING NEEDLE MILL****Knitted Fabrics**

28 cut - 20", 24" and 26" machines
Can offer a large volume business on synthetics and cotton fabrics. Steady, year-round operation.

BOX 500AA

SALESMAN SEEKS KNITWEAR MILL

making better goods, ladies' or men's line. I am young, experienced, aggressive, know yarns and knitting equipment and can help design and merchandise line. Can offer excellent coverage of New York market for out of town mill with competitive advantages; also willing to travel. I am a reputable salesman seeking a reputable manufacturer.

BOX 500W

WANTED**KNIT FABRIC MILL**
in circular and Double Knits

High caliber agent, knit fabrics specialist doing large volume (seven figures) business with women's, men's and children's trades. Now interested in a substantial diversified mill to represent. Can help style complete line. Immediate business available.

BOX 500BB

TRADE WANTS

RATES: one insertion—40 cents per word. Words set completely in capitals—45 cents per word. Box numbers count as two words. Minimum cost of advertisement—\$6.00. Minimum cost of Positions Wanted advertisements—\$3.00. Trade Wants for Monday's paper must be in by preceding Wednesday, 2 P.M. Please enclose payment with your order.

FINISHING WANTED on all types of knit goods, men's, ladies' and children's garments. Call EVERgreen 7-6707.

FOR SALE: 1-Supreme bulky machine, 40" diameter, 4 cut, 16 feed. Box 500FF.

WANTED: 102 Foster backwinder or RoLo-Cener, also, Foster winding machines. Box 500EE.

SERVICES, SUPPLIES FOR SALE**SAM STARK specializing in
CREATIVE JACQUARD DESIGNS**

60 Clarkson Ave., Brooklyn 26, N. Y. IN 9-8554 Aft. 3 P.M.

REAL ESTATE**LOFT FOR RENT**
Immediate occupancy

Ideal for knitting mill. Located in Long Island City. Ground floor complete with heavy power, approximately 30,000 sq. feet of space (450' long x 70' wide)
18' ceiling. Sprinkler system throughout.

MAC M. ROTHKOPF
HY 7-1486

CLOSE-OUTS WANTED

CLOSE-OUTS WANTED
CASH PAID for surplus stocks of Sweaters and Bathing Suits
BERNETTE TEXTILE COMPANY

101 W. 31 St., New York City BRyant 9-5526-7

CLOSEOUTS WANTED

CASH for ladies', men's, children's sweaters, polo shirts, etc.
METRO

611 Broadway, New York 12, N. Y. GR 3-4437

COTTON KNIT FABRICS, CLOSEOUTS WTD.

Solids, stripes & fancies. Also Orions, Acrilans, Fleeces, Metallics. Woven piece goods & remnants. **We pay cash.**
CHARMKNIT CORP.

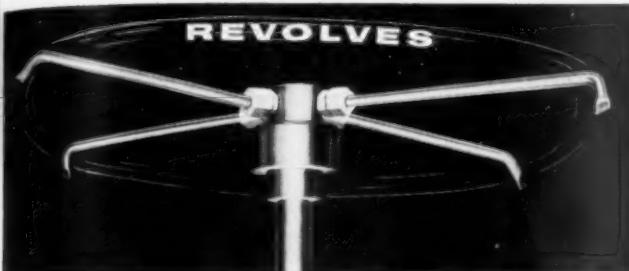
82 Franklin St., New York City WALKER 5-6828

KNITTED OUTERWEAR TIMES
386 Park Ave. South, New York 16, N. Y.

Please enter our subscription to the Knitted Outerwear Times for one year. Check is enclosed. Domestic—\$10.00 per year; Canada-Foreign—\$15.00 per year.

Name.

Address.



"WHIRL-CLEAN" REMOVES LINT FROM TOP STOPMOTIONS—96 TIMES A DAY!

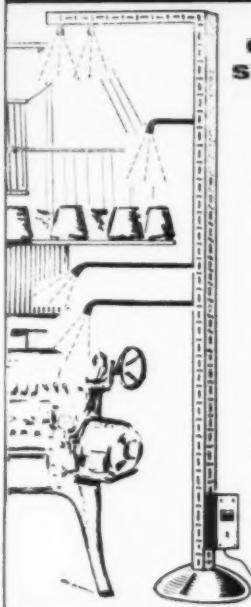
Compressed Air Cleans Top Stopmotions and Porcelains of Fly and Lint—Automatically

- Pinpoints your air cleaning operations right at the level needed
- Replaces weak, occasional blasts from floor-operated hand hoses that never reach trouble spots
- Does not disturb or tangle yarns
- No ladder climbing to clean stop-motion
- Removes need of scouring to free cloth of contamination of foreign colored fibres

- Assures proper functioning of top stopmotions
- Decreases fly buildup in porcelain holes
- Blows lint down off machine but not into cloth
- Can be operated automatically and manually
- Operates for 15 seconds every 5 minutes or other cycles if desired. Does not need to run continuously
- Self-powered by built-in turbine

...for revolving machines "STA-KLEEN" REMOVES LINT 96 TIMES A DAY

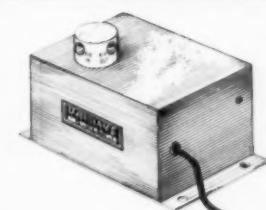
COMPRESSED AIR CLEANS STOPMOTIONS, PORCELAINS AND KNITTING ELEMENTS AUTOMATICALLY



- Pinpoints your air cleaning operations right at the level needed.
- Does not disturb or tangle yarns. No ladder cleaning to clean top.
- Assures proper functioning of machine by decreasing fly buildup.
- Jets adjustable for position—can be swung out of way if desired.
- Replaces weak occasional blasts from floor-operated hand hoses that never reach trouble spots.
- Self contained steel column unit—free standing—does not interfere with knitting machines.
- Removes need of scouring to free cloth of contamination of colored fibres.
- Built-in timer operates unit for 15 seconds every 5 minutes—does not blow air continuously. Can be operated automatically and manually

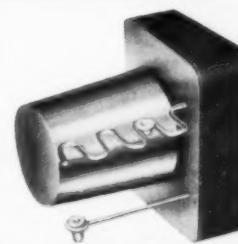


- Eliminates horizontal streaks caused by incorrect stitch setting—sets each feed identical
- Gives absolutely uniform quality output—yard after yard—machine to machine
- Eliminates time consuming, difficult and inaccurate old "lipstick" method
- Stitch record allows you to duplicate cloth or patterns on other machines anytime
- Increases output—machines never stopped—stitch measured under power
- Insures uniform yield—by simple calibration



AUTOMATIC TIMER TURNS LINT BLOWERS OFF-ON

- "Air-Miser" saves buying oversize, larger compressor
- Staggered cleaning cycle; repeats every 5 minutes
- Saves electricity
- Built in solenoid valve with manual switch and on-off switch



"ELECTRO-FAST" FURNISHING WHEELS FEED YARNS UNIFORMLY

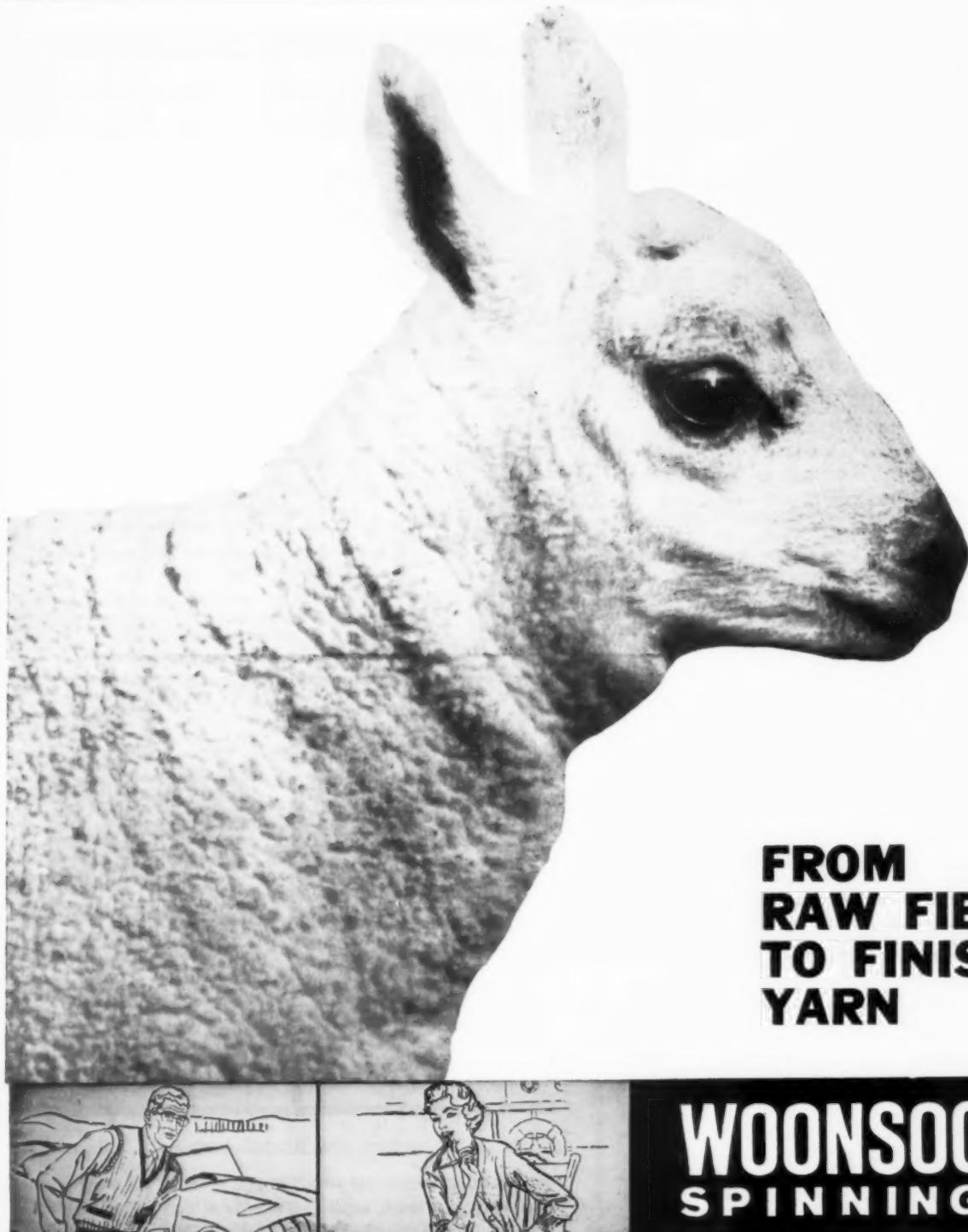
- Self-contained 110 volt motorized units
- 5 Year guaranteed motor life without brush replacement or oiling
- Perfect for pique cloth of fine worsted yarns

WRITE FOR INFORMATION

These precision electronic and mechanical knitting devices are designed and manufactured by A. Abrams, engineer and co-author of "Pattern Wheel Designing for Circular Jersey Knitting Machines," and member of the American Society of Knitting Technologists. For further information on these products or consultation on your other knitting problems, write direct to:

UNIWAVE, INC.

109 MARINE STREET
FARMINGDALE, L.I., N.Y.
Chapel 9-8180, 1



**FROM
RAW FIBER
TO FINISHED
YARN**

**WOONSOCKET
SPINNING CO.**

When you buy from Woonsocket you are buying the best! Whether it be cashmere, camels hair, angora, fine blends, mohair, lambs wool or other specialty yarn, Woonsocket begins with the world's finest fibers. Woonsocket processes them in its own mills, under highly scientific control until the yarn is delivered promptly to your factory. Thus you are assured of an adaptable resource, able to meet the constantly changing demands of men's and women's fashions.

Distributed by **AMICALE YARNS, INC.**, 511 Fifth Ave., New York 17, Murray Hill 2-1655 • A. M. Krasnoff, 1 Belmont Ave., Bala Cynwyd, Pa., MOhawk 4-6345 • Edgar Worth, 4 Cinchring Road, Rolling Hills, Calif., ORegon 8-4128 • Textile Yarn Co., 222 W. Adams St., Chicago 6, Ill., DEarborn 2-5230 • Spun by **WOONSOCKET SPINNING CO.**, 115 Ricard St., Woonsocket, Rhode Island, POplar 9-3100

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